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Analyzing Differences in Mental Health Treatment Seeking Behavior in Hopkins County,
Kentucky

Capstone Project Paper

A paper submitted in partial fulfillment of the Requirements for the degree of Master of Public
Health in the University of Kentucky College of Public Health

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Lexington, Kentucky

Final Examination:

April 16th College of Public Health

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Acknowledgements

I would like to thank several people who without their help, this Capstone project may never have been completed. First to my husband Matthew who is my rock, and supported me at every step of this project. To my parents, Anne and Steve, who have always been the greatest champions of my education. To all of my Committee members who gave me such wonderful feedback and encouragement, and helped me understand the privilege and responsibility of doing research well.

Abstract

Rates of mental illnesses are consistently higher in the corrections system at all levels of incarceration. However, local jails are largely unable to meet the mental health needs of their inmates. Considering that there are several barriers to treatment seeking such as stigma, transportation, or availability of services in rural areas already, the treatment seeking behavior of people in jail differs from those not in jail. The objective of this research is to understand the factors that influence treatment seeking behavior among those in jails, and how those factors differ from those not in jail. Overall people in jail had higher rates of diagnosed mental illnesses, and worse perceptions of their own mental health that may have contributed to their higher rates of treatment seeking behavior. Transportation related barriers to treatment seeking which were prevalent among those in jail were not significant enough to decrease treatment seeking behavior in the jailed population.

Keywords: mental health, mental illness, local jails, community needs health assessment

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List of Abbreviations:

Serious Mental Illness (SMI)

Any Mental Illness (AMI)

National Alliance on Mental Illness (NAMI)

Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-V)

Introduction and Background

Mental illnesses are contributing factors for several health conditions and impact a person's overall quality of life (Vigo, n.d; Snell-Rodd, 2018; Barry, 1996). People with mental illnesses are often stigmatized due to cultural perspectives on mental illness, which impacts their likelihood of seeking mental health treatment services, especially in rural areas (Matejkowski, 2010; Smith, 2013, Snell-Rodd, 2018). Mental illnesses are especially prevalent in the corrections system and this population of people face unique barriers to treating their mental illnesses such as having co-morbid illnesses like substance use disorder (SUD) and social and economic challenges (Baillargeon, 2010). There are ongoing efforts to more effectively coordinate mental health treatment with the corrections system after release, which has shown in initial evaluations to decrease the likelihood of recidivism (Cusack, 2010; Constantine 2013). Overall the relationship between mental illness, substance use disorder, and the corrections system is complex and fully understanding these relationships is compounded by varying factors.

The purpose of this study is to identify differences in the mental health treatment seeking behavior of people in a local jail compared to those not in jail. Therefore, an analysis of current literature focusing on the role of mental illness in the corrections system and treatment seeking behavior follows to gain a more comprehensive understanding of the relationships at play that may impact treatment seeking behavior in a rural setting.

Prevalence of Mental Illnesses

Prevalence rates of mental illnesses can vary depending on the definitions used. The National Survey on Drug Use and Health measures for "serious mental illnesses" (SMI), which is defined as any mental disorder that has occurred in the past year, and meets the diagnosis criteria in the DSM-V, *and* seriously impairs one's ability to function normally (National Institutes of Health, 2017). The distinction between a serious mental illness and any mental illness is the level of debilitation the illness causes. In general, an estimated 20% of people in the United States have had any mental illness in their lifetime (Aldworth, 2010). However, only about 3% of the population (about 10 million people) have a current serious mental illness (NAMI, 2015).

Mental illnesses are particularly high among those in the U.S. corrections system, and it is estimated that over one million people with a serious mental illness are in jails each year (NAMI, 2015, Wilper et al., 2009, Steadman et al., 2009). Overall rates of serious mental illness in the corrections system overall are estimated to be 14.5% of men and 31% of women (Cusack, 2010). When comparing rates of any mental illness in the corrections system, there are variations depending on the type of corrections facility (Wilper et al., 2009). For example, in federal correction facilities 14.8% of people had been diagnosed with any mental illness, compared to 25.5% of people in state corrections, and 25% of people in local jails (Wilper et al., 2009). Although varying, the rates of both any and serious mental illnesses among the incarcerated population are higher than the general population.

When looking at specific illnesses among the incarcerated population, some estimate that up to 10% of individuals suffer from major depressive disorder compared to the 6.9% among those who are not incarcerated. Another estimation is that 50% of incarcerated individuals suffer from antisocial personality disorder (Fazel, & Danesh, 2002). There is also a concern of higher rates of undiagnosed psychiatric disorders in this population, compared to those who have not been incarcerated (Schnittker, Massoglia, and Uggen, 2012). The pattern of high rates of mental illnesses (both diagnosed and undiagnosed) in the corrections system could be partially explained by the finding that contact with, and life in the corrections system contributes to the development of mental illness (Pearlin, 1989; Sugie & Turney, 2017). Another contributing factor is that mental illness is often co-morbid with substance use disorder, which is important for contextualization since substance use disorder has been criminalized since the 1980s (Sevigny, Pollack, Reuter, 2013). It is estimated that approximately 10.2 million people are suffering from both substance abuse disorder and any mental illness nationally, although estimations of this specific to the corrections system have not been examined nationally (NAMI, 2015).

Although some have suggested that rates of mental illness are higher in urban areas, one study found no real differences in risk of having a serious mental illness between rural and urban areas (Breslau, 2014). In support of this finding it was found that there were no significant differences in the proportion of mental illnesses in women in rural jails compared to urban jails (Lynch, 2014). However, Reeves and colleagues (2013) found significantly higher rates of depression in rural areas, and increased mortality due to higher rates of suicide and substance use disorder (Snell-Rood, 2018).

Impact of Mental Illness

The health impacts of mental illnesses are numerous. Mental illnesses are major drivers of morbidity and disability both globally and in the United States (Vigo, n.d.). They also contribute to premature mortality, as one study estimated that people with mental illnesses die ten to twenty years earlier than their counterparts (Vigo, n.d.). This is partially explained by the increased risk of chronic diseases, but suicide also plays a role in these numbers. Of people who commit suicide, about 90% of them have an underlying mental health issue (NAMI, 2015).

The social impacts of mental illnesses are also relevant to consider. Those with mental illnesses are often subject to negative stigma from both their community and family members, which several studies identified as a perceived barrier to a higher quality of life and seeking treatment (Vijayalakshmi, 2014; Smith, 2013; Matejkowski, 2010).

This stigma manifests itself severely in the criminal justice system. It has been identified that symptoms of mental illnesses alone, like hallucinations and delusions directly contribute to very few violent or criminal behaviors (Wolff, 2013). However, people who show symptoms of mental illness are more likely to be arrested than those who do not show symptoms (Teplin, 1984). This is confirmed by the larger number of people with serious mental illness (SMI) who are put in jail, than the number of people with SMIs admitted to a psychiatric hospital each year (Morrissey et. al., 2007). Matejowski (2010) also found that incarcerated people with mental illness are less likely to be paroled than those without mental illness contributing to the high rates of people with mental illnesses in the corrections system.

Access to Mental Health Treatment Services

Access to mental health treatment services within the corrections system is limited and studies have shown that the shortcomings of the mental health treatment system are related to the disproportionately high rates of mentally illness in the corrections system (Kennedy-Hendricks, 2016). Local jails are funded by the county and increasing funding to small jails is often not a high priority, adding to the difficulty of providing healthcare and programming services to deal with the often complex health issues (May et. al., 2014). Prisons and jails essentially serve different purposes within the criminal justice system and this impacts the quality of healthcare services they have available. Since jails are more frequently for those awaiting trial or serving short term sentences, they typically have less healthcare and mental health services than prisons

(Wilper et al. 2009, Harvard Law Review, 2018). Most corrections institutions will perform a health assessment when inmates arrive, however an estimated 68.4% of individuals in local jails nationally have never received a medical examination of any kind (Wilper et al. 2009).

In the case *Estelle v. Gamble* (1983), the Supreme Court determined that because people in the corrections system must depend on the government to provide medical and mental health services, to withhold those services would be considered cruel and unusual punishment violating their eighth amendment right. Although constitutionally bound to provide mental health treatment services, jails in particular are largely unable to meet the needs of the inmates in part because those needs are not assessed.

More recently, overcrowding in prisons and increasing arrest rates has led to prioritizing criminal justice reform to reduce the prison population overall (Schoenfeld, 2012). Several different approaches have been taken to do this, particularly in regards to the criminalization of substance use disorder. The use of drug courts as a way of managing rates of substance use disorder in the corrections system is prevalent throughout the country and have widespread appeal for dealing with the issue of substance use disorder in the corrections system. They are typically community-based treatment systems with oversight from the justice system (Sevigny et al., 2013). Drug courts have been shown to decrease drug use and recidivism however they are often limited in their effectiveness by funding, resource constraints, and strict eligibility requirements (Sevigny et al., 2013). These limitations have led to discussions about changing eligibility and sentencing requirements to allow for greater participation in this program.

An ongoing effort is being made to move beyond drug courts and more effectively coordinate mental health treatment of recently released inmates with the corrections system. This approach is being evaluated in different areas of the country. In California for example, the Forensic Assertive Community Treatment (FACT) program found that adequate behavioral treatment was associated with fewer number of jail days compared to traditional treatment (Cusack et al., 2010). In support of this finding, Constantine (2012) found that receiving mental health treatment is associated with a reduced risk in recidivism temporarily following treatment.

Mental Health Treatment Seeking Behaviors

Similar to differences in the prevalence of mental illness, there are also differences in treatment seeking behaviors based on population. These differences are determined in part by

predisposing factors such as race, age and income. However, they are also influenced by social and cultural factors. Some of those factors include cultural beliefs about mental illness in general, stigma associated with treatment, perceptions of treatment effectiveness, and co-morbid diseases (Samuel, 2014; Smith et. al., 2013; Goodwin et. al., 2002).

Failure to receive treatment has been associated with homelessness, accentuated symptoms of mental illness, and re-incarceration (Smith, 2013). Unfortunately, only 38.5% of people with mental illnesses are able to access and receive adequate care (Smith, 2013). This percentage varies depending on type of diagnosis, for example though schizophrenia has a treatment percentage close to 80%, for panic disorders only 25% are treated, and obsessive-compulsive disorder treatment is around 15% (Stuart, 2000).

Although some with serious mental illnesses are actively unwilling to participate in treatment, this attitude is less common than external barriers disrupting treatment or preventing the initiation of treatment (Smith, 2013). For example, in rural areas mental health treatment service providers are not as common, and those treatment options that do exist often take a pharmacological approach which some dislike (Snell-Rood, 2018). It has also been identified that issues such as transportation and unstable housing impact the likelihood of treatment continuity (Smith et. al., 2013). Results from one study even recommend that mental health treatment providers offer free transportation as a means of improving use of services (Vijayalakshmi, 2014).

Additionally, some studies have examined personal reasons for either not seeking or discontinuing treatment services. This can include stigma and personal beliefs about mental illnesses in general. Stigma against both mental illnesses and seeking treatment is particularly strong in rural areas (Snell-Rood, 2018). One study found that many symptoms of mental illnesses, depression in particular, are contrary to typical values in rural areas such as hard work and self-reliance (Snell-Rood, 2018). Also, the use of drugs as both a coping mechanism and a form of treatment contradicts these values and is viewed negatively, discouraging treatment seeking (Snell-Rood, 2018). In a study of recently released black adolescents, participants identified external factors such as racism and environmental stressors as being the cause of their mental illness and did not identify mental illnesses as real diseases and felt they should be dealt with independently, similar to attitudes in rural communities (Samuel, 2014).

People with mental illnesses who have been incarcerated for any amount of time face unique challenges when released for seeking treatment (Baillargeon, 2010). Their circumstances vary depending on the length of their incarceration but could include changes in their housing and employment situations (Baillargeon, 2010). People who have serious mental illnesses are less likely to find employment and more likely to experience homelessness (Baillargeon, 2010). Up to 60% of people in jail are awaiting trial because they were unable to pay their bail, they are in general of lower income and more likely to have transportation issues which is a crucial access tool in a rural environment (Minton and Golinelli, 2014). Factors such as these have been found to make treatment seeking behaviors more difficult, but as previously mentioned not receiving treatment is associated with higher rates of recidivism (Smith, 2013).

Challenges

Part of the difficulty in dealing with mental illness in the corrections system, is establishing a causal relationship between mental illness and incarceration. Life in prison is itself a stressor since the removal of freedom, identity, personal comforts, and social support systems are stressful, anxiety-causing events (Schnittker, Massoglia, and Uggen, 2012). Also many of the risk factors for both incarceration, SUD, and mental illness are similar (Schnittker, Massoglia, and Uggen, 2012). Additionally, there is a high prevalence of co-morbid disorders such as SUD, anxiety, and mood disorders (Schnittker, Massoglia, and Uggen, 2012). The policy of criminalizing SUD also compounds the difficulty of managing mental illnesses in this population (Harvard Law Review 2018). In a population of people where co-morbidity of mental illness and SUD is high, the illegality of SUD exacerbates mental illnesses and makes it more difficult to identify clear relationships. These challenges make it difficult to understand the factors that contribute to seeking out mental health treatment difficult and identifying what gaps exist in the treatment system, especially in rural areas.

Objectives

Increasing incarceration rates have led to the need to examine individuals within the corrections system as a distinct population, and consider incarceration a social determinant of health (Schnittker, Massoglia, and Uggen, 2012). Of the twelve million people who cycle through the corrections system in a given year, the majority of those people are in jails either

serving short sentences or are awaiting trial (Harvard Law Review, 2018). Since these correctional institutions are often under-funded and provide little in terms of healthcare and mental health services, the focus of this research will be to compare the factors that influence seeking mental health treatment between a sample of institutionalized and non-institutionalized individuals in one county. Individuals who at the time of survey completion, were in a Kentucky county jail will be compared to a group of people, who at the time of survey completion, were not in jail.

To reach these objectives, several aims of the study will be addressed. First, I will compare the proportion of mental symptoms in these two sample groups, both diagnosed illnesses and personal perceptions of mental health. Second, I will compare rates of transportation-related barriers to obtaining mental health services between the two groups. And finally, I will compare the rates of treatment seeking behavior between the individuals incarcerated in a local jail and non-incarcerated residents in the same county.

Data

The data used in this analysis are from a 2018 Community Health Needs Assessment collected by a health coalition in Madisonville, Kentucky. The coalition was comprised of representatives from Baptist Health in Madisonville, the Hopkins County Health Department, and Health First Community Center. This assessment used an online and in paper survey to collect responses from individuals in Hopkins County and surrounding counties (Muhlenberg and Webster). However, the majority of responses came from Hopkins County, which will be the focus of this analysis.

The coalition developed and distributed the survey both online and on paper to their community partners and advertised the survey on a number of social media platforms like Facebook and websites of participating organizations, with a link to the online survey. The paper survey was available at the physical locations of the coalition members as well as other partner programs. They included instructions for either mailing or dropping off completed surveys to Baptist Health hospital in Madisonville. Through their community partners, the Hopkins County jail was also provided paper copies of the survey for inmates to complete and they were mailed to Baptist Health. In previous years, the coalition felt like the survey results were not

representative of the entire community, and therefore tried to make the survey accessible to as many people in their community as possible.

The survey had a total of sixty questions, which covered several health-related topics. It began with general demographic information and health insurance coverage. Following this section were questions regarding environmental health factors like quality of housing and transportation. The survey included questions about health behaviors like diet, physical activity, and smoking. It also asked about health care routine, existing diagnoses, and medication. Finally, the survey sought to gain a sense of the public's opinion on several health concerns in their community and what they believed should be the highest priority.

Sample

The original number of responses to the survey was 657, and included residents living in Hopkins, Muhlenberg, and Webster counties. Residents in rural communities are by definition more spread out, which creates challenges for ensuring that respondents geographic distance to services is equitable. In the interest of ensuring that the two samples (jail and not jail) are consistent in their geographic distance to services, some sampling restrictions are applied so that only residents of a single county are included in this analysis. Therefore, the final sample that is included in this analysis consists of 441 individuals from Hopkins County.

The racial breakdown of respondents was 92% Caucasian, 5% African American, and 1% multiracial. The county itself is approximately 91% Caucasian and 6% African American, demonstrating that the sample is an approximate racial representation of Hopkins County. The median household income in this sample was \$40,000 – \$49,000 which is consistent with the median household income in Hopkins County of \$43,169 (DataUSA, 2016). A major limitation of the analysis is that the majority of respondents who completed the survey were women, about 84%. The two sample groups used for analysis in this survey were grouped based on their jail or not jail status. The number of people in jail at the time of survey completion was 43 (9%). And the number of people not in jail at the time of survey completion was 398 (91%).

Measures

The difference in mental health treatment seeking behavior was assessed by survey questions on the topics of mental health perceptions, diagnoses, access to transportation and care, and treatment seeking behaviors. Seven primary questions from the original survey are the focus of the analysis.

1.) How would you rate your mental / emotional health?

As previously mentioned, personal views of one's mental health impact the likelihood of seeking treatment. Responses to this question are ordinal in nature, starting with very healthy, healthy, somewhat healthy, unhealthy, to very unhealthy. In a separate assessment responses were grouped to be dichotomous in nature as either "healthy" (very healthy, healthy, somewhat healthy) or "unhealthy" (unhealthy, very unhealthy).

2.) How often does stress or anxiety impact your ability to function normally?

As previously mentioned a diagnosed mental illness is considered to be serious if it impairs one's ability to function normally (National Institutes of Health, 2017). This question therefore captures perceptions of one's mental health by assessing perceived severity, regardless of diagnosis status. This question has ordinal responses, which include regularly, often, sometimes, and no. The responses were grouped to provide dichotomous responses as either "frequent" stress and anxiety (regularly and often) or "not frequent" stress and anxiety (sometimes and no).

3.) Have you ever been diagnosed by a healthcare provider with behavioral or mental health issues?

In addition to personal perceptions of mental health, diagnosed mental illnesses were assessed in this analysis to provide the most accurate proportion of mental illnesses in the sample. The question about diagnoses made by a healthcare provider covered a multitude of diagnoses in the original survey. In this analysis, the focus is whether or not respondents selected behavioral / mental health issues and/or substance abuse. Responses to this question were nominal and the four options include none, behavioral / mental health issues, substance abuse, or

both. Later in the analysis these response options were grouped dichotomously making the options “at least one” (behavioral / mental health issues, substance abuse, both) and “none”.

4.) Do you have reliable and affordable transportation?

Access to treatment options was considered by looking at multiple questions regarding distance and transportation. Having access to reliable and affordable transportation has been identified as a barrier to continuing mental health treatment (Smith, 2013).

In the original survey the responses to this question included justifications for their selection. For example, some options included: “Yes, I have access to a consistent ride”, “No, I have transportation, but it is often broken down”, and others. This was done for the coalition to generate better understanding of how best to meet the transportation needs of their community. In order to simplify this analysis, these responses were grouped dichotomously “yes” or “no”, and did not include the justifications for the responses.

5.) Do transportation problems interfere with getting to appointments with your doctor or healthcare provider?

This question more fully assessed the severity of transportation issues as a barrier to treatment seeking, as other studies have suggested (Smith, 2013). Response options to this question were dichotomous “yes” or “no”.

6.) For what kinds of healthcare do you have to travel more than 20 miles?

Having to travel far distances to treatment is impacted by having a diagnosed mental illness, but also by limited treatment options. In the original assessment, this question addressed the types of care that respondents had to travel over 20 miles to receive. This analysis however only considers whether or not respondents had to travel over 20 miles to get to specifically either behavioral / mental health care or substance abuse treatment. Therefore, responses are nominal and include none, behavioral / mental health care, substance abuse treatment, or both. Later in the analysis these response options were grouped dichotomously making the options “at least one” (behavioral / mental health treatment, substance abuse treatment, both) and “none”.

7.) Have you sought treatment or counseling with a mental or behavioral health provider?

Mental health treatment seeking behavior was evaluated through a single question asking if participants had sought treatment or counselling with a behavioral / mental health provider. Responses to this question are dichotomous “yes” or “no”.

Methods

As previously mentioned, the counties Muhlenberg and Webster were not included in this analysis based on potential differences in these populations’ geographic access to mental health treatment services. Therefore, restrictions were applied based on zip code, and only residents that reported zip codes within the boundaries of Hopkins County were included in this assessment. These restrictions only limited the sample slightly, and left a total of 441 responses included in the analysis.

Once the exclusion criterion was applied, distinctions were made between the responses that were completed from people in the Hopkins county jail at the time of survey completion, and those responses that were not. It should be noted that the survey did not ask if participants were currently incarcerated, so it cannot be ruled out that these surveys were completed by employees rather than inmates. However, it was indicated on the return address labels that the mail was “uncensored inmate mail”, so it was assumed that these were completed by inmates. Those surveys with return address labels from the county jail were used to identify the in jail sample group, and the rest of the responses were included in the not in jail sample group.

Stata software was used to analyze bivariate relationships in the data. To begin, frequencies for all variables (perceived mental health, perceived stress severity, diagnosis, transportation issues, transportation interference, traveling 20+ miles to treatment, and treatment seeking behavior) were compared by sample group.

Then the results that were ordinal in nature were re-grouped to have dichotomous responses. Responses that did not have large enough cell sizes (diagnosis, and distance to services) were aggregated to be dichotomous in nature. A series of chi-squared tests were performed on all variables. This allowed comparisons of the frequencies to be made based on sample group. A p-value cut-off of $\leq .001$ was used to indicate any significant differences between the two sample groups on the variables of interest.

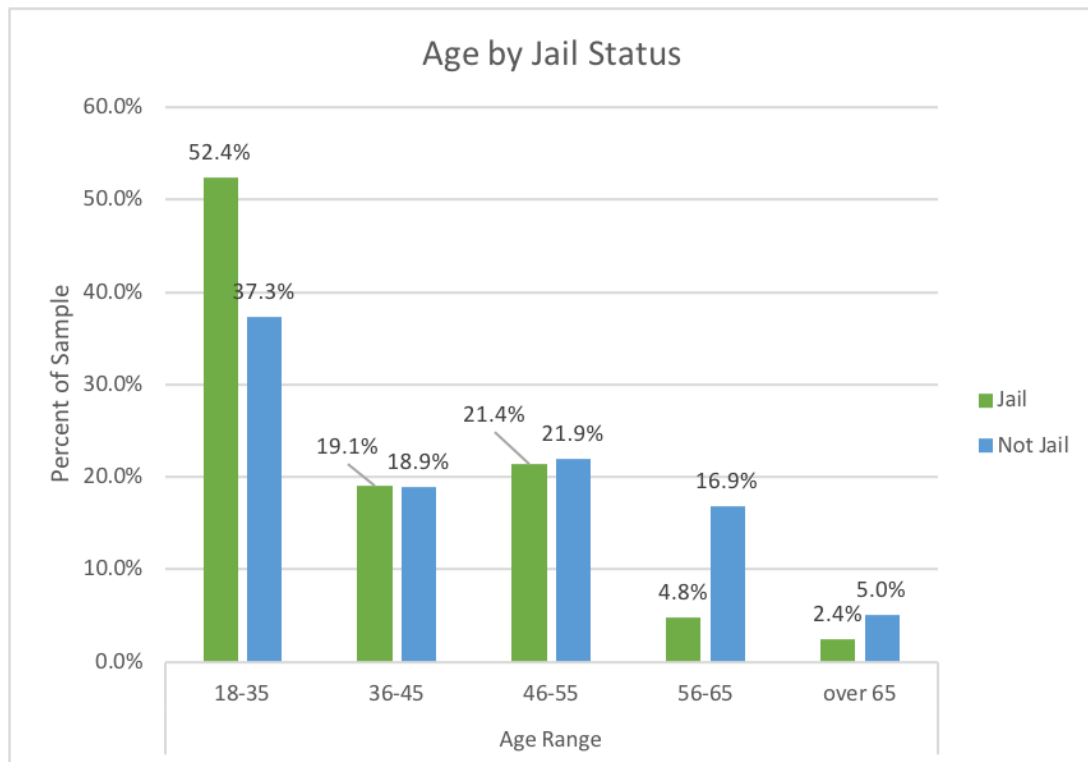
Results

Overall Demographics

As previously mentioned, the original sample included 657 individuals. A total of 213 responses were excluded from analysis based on their zip code being located outside of Hopkins County. Only 3 from the jailed sample were excluded and 210 from the not-jailed sample were excluded. This left a total of 43 individuals in jail, and 398 individuals not in jail.

The demographics of the overall sample are representative of the county in terms of median income, race and ethnicity. However, some differences between the overall sample and the county also appear. In terms of age, the largest age group to completed the survey was aged 18-35 (38.72%, n=170), which is in general younger than the county as a whole.

Figure 1. Age by Jail Status



In terms of educational attainment, participants had high levels of educational attainment, with 35% having a bachelor’s degree or higher. Only 4.32% (n=19) of the overall sample had less than a high school diploma or GED.

In terms of gender, the sample is not evenly distributed. About 84% (n=369) of the respondents were women. This may be partially explained by the recruitment methods used by the survey developers. It was advertised and administered by the hospital and health department in Hopkins county. Women, especially women of reproductive ages are more likely to have consistent health care services, and may have been more likely to see this survey advertised.

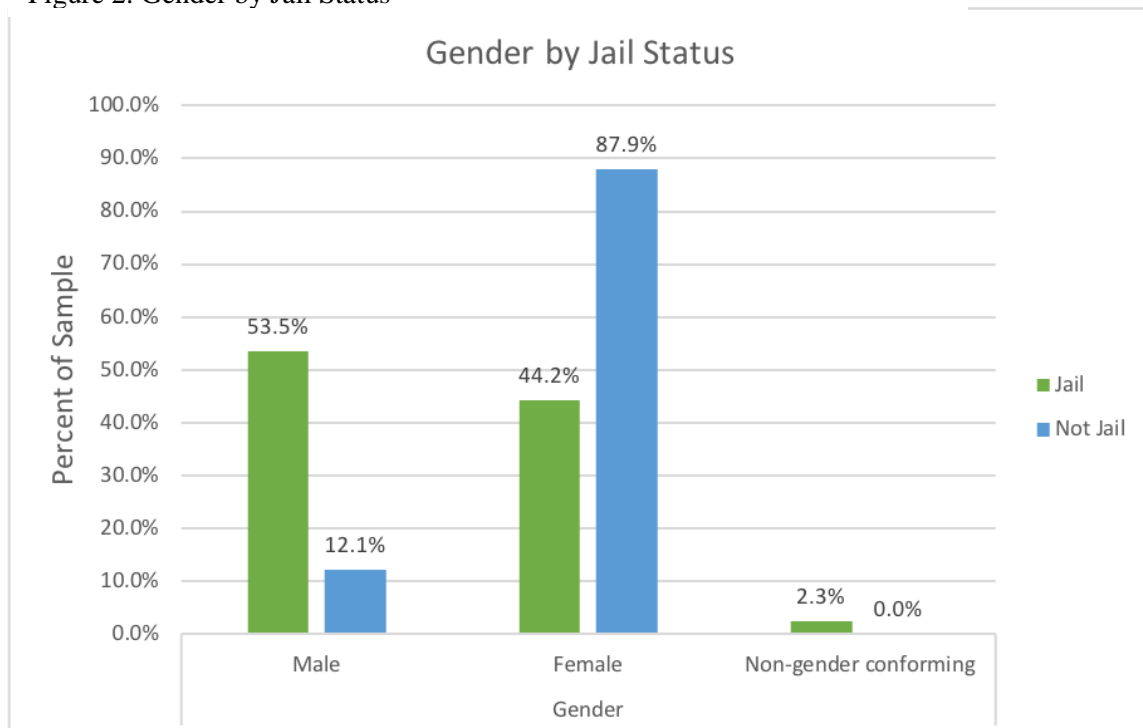
It is likely that these demographic differences impact the overall results of the analysis.

Sample Differences in Demographics

Demographics based on sample groups (jail and not-jail) demonstrate some differences in the people sampled. Although racial disparities are often present in jails and prisons, there were not major differences in race and ethnicity between the two samples. The jail sample was 85% (n=35) white, compared to 91% (n=365) white among those not in jail.

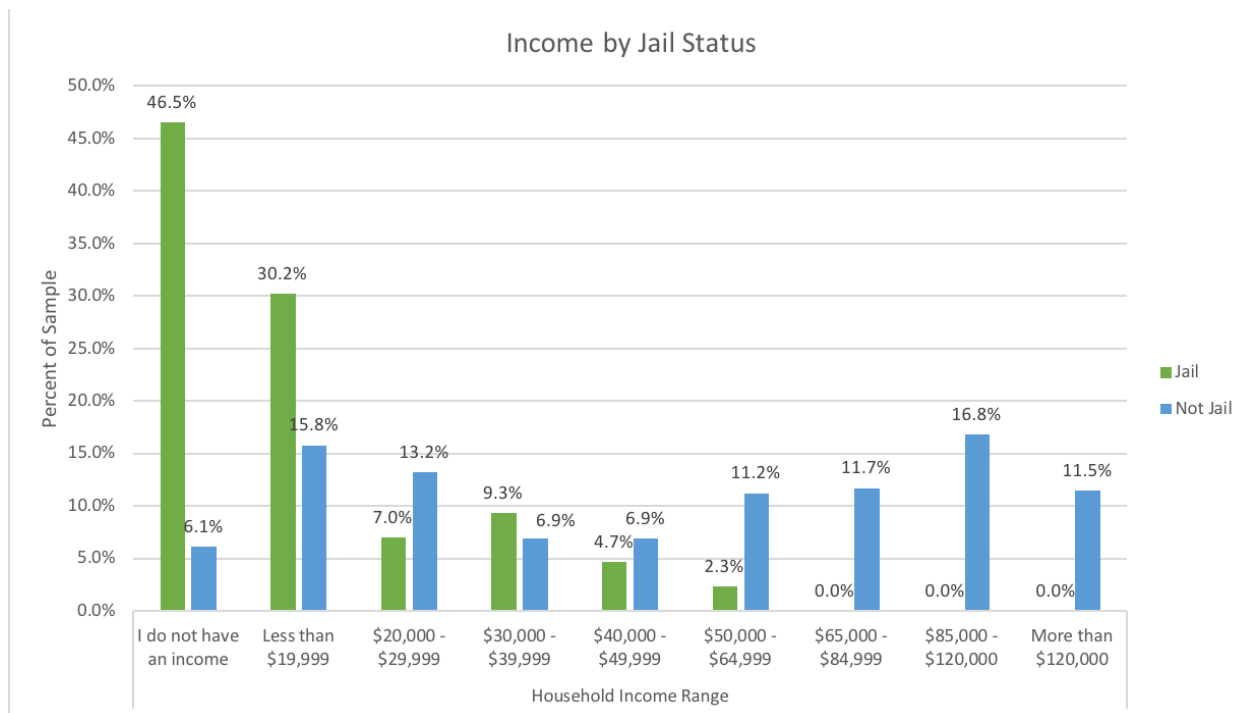
The differences in size of the sample groups tends to overshadow some percentage differences between the samples. For example, gender distribution was much more evenly distributed among the jailed sample, for reasons that are not completely clear. In the jailed population 53% (n=23) were men compared to 44% (n=19) women (Figure 2). There was one person in the jailed population who identified as non-gender conforming.

Figure 2. Gender by Jail Status



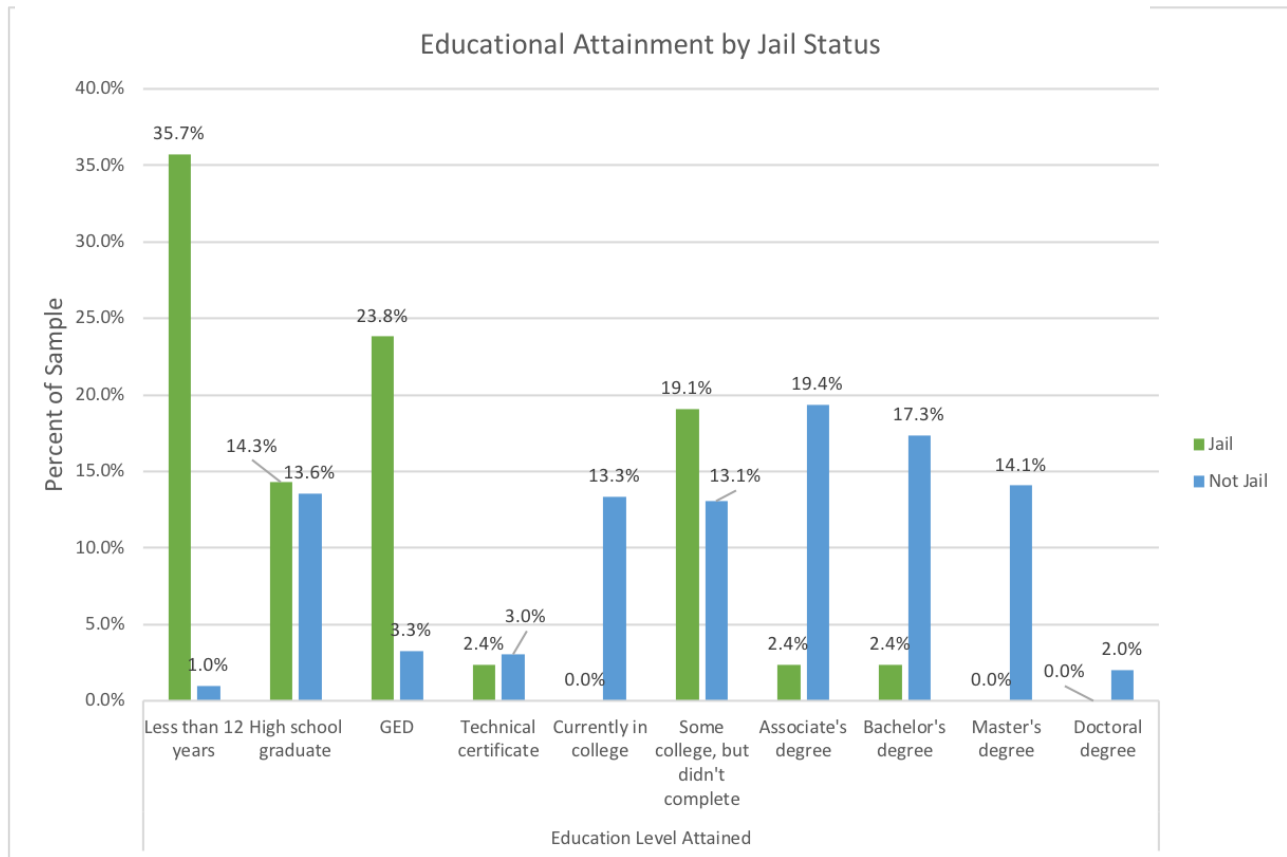
In terms of income, the sample in jail was much more skewed to the left indicating in general lower incomes among this jailed population. Of the jailed sample 47% indicated that they did not have an income (Figure 3). This should be considered in association with their potential loss of income while in jail. This could also be related to the fact that more people in jail indicated that they were single (37% jailed compared to 25% not in jail). Only 20% (n=8) of people in jail indicated they were married, compared to 60% (n=240) of people not in jail. Therefore, people in jail did not have a possibility of reporting a secondary household income.

Figure 3. Income by Jail Status



Educational attainment follows a similar distribution, which is expected due to the close association between income and education. 35% (n=15) of people in jail have less than 12 years of education, compared to only 1% (n=4) of people not in jail. On the other end of the scale, only approximately 5% (n=2) of people in jail had an associate’s degree or higher, compared to 53% (n=210) of people not in jail (Figure 4).

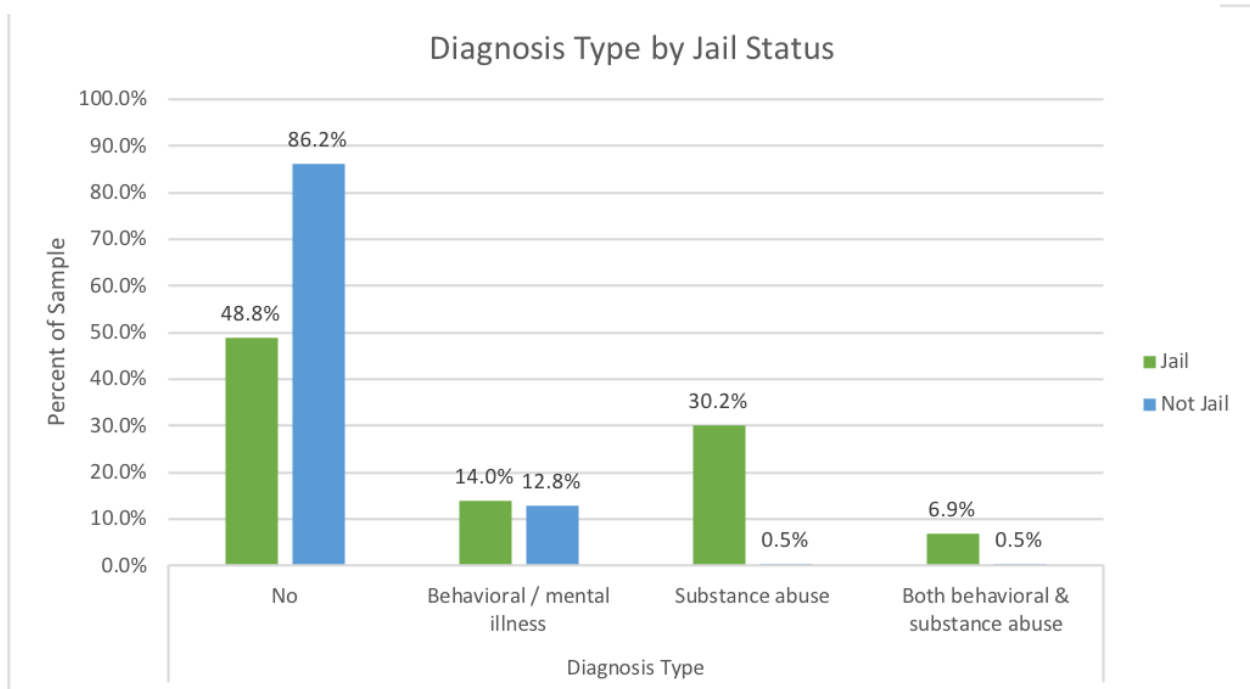
Figure 4. Education by Jail Status



Mental Health Variables

The proportion of individuals experiencing mental illness was estimated using participant responses to the survey item assessing mental health diagnoses made by a healthcare provider. This question measured the proportion of both samples with a diagnosed mental / behavioral illness, substance use disorder, or both. Originally the frequencies of these different diagnoses were measured individually. In the jailed sample 14% (n=6) of people had a diagnosed mental illness which was proportionally similar to the 13% (n=51) in the not in jail sample. When looking at substance use disorder, in the jail sample about 30% (n=13) of the individuals in jail had a diagnosed substance use disorder, compared to 0.5% (n=2) in the non-jailed sample. Just under 7% (n=3) of those in jail had both a diagnosed mental illness and substance use disorder, compared to 0.5% (n=2) in the not in jail sample (Figure 5).

Figure 5. Percent of diagnoses by Jail Status



When these results are aggregated to “at least one”, and “no” for statistical comparison some of the distinctions based on the type of diagnosis are lost. In the jail sample, 51% (n=22) were found to have at least one diagnosis, compared to 14% (n=55) of people not in jail.

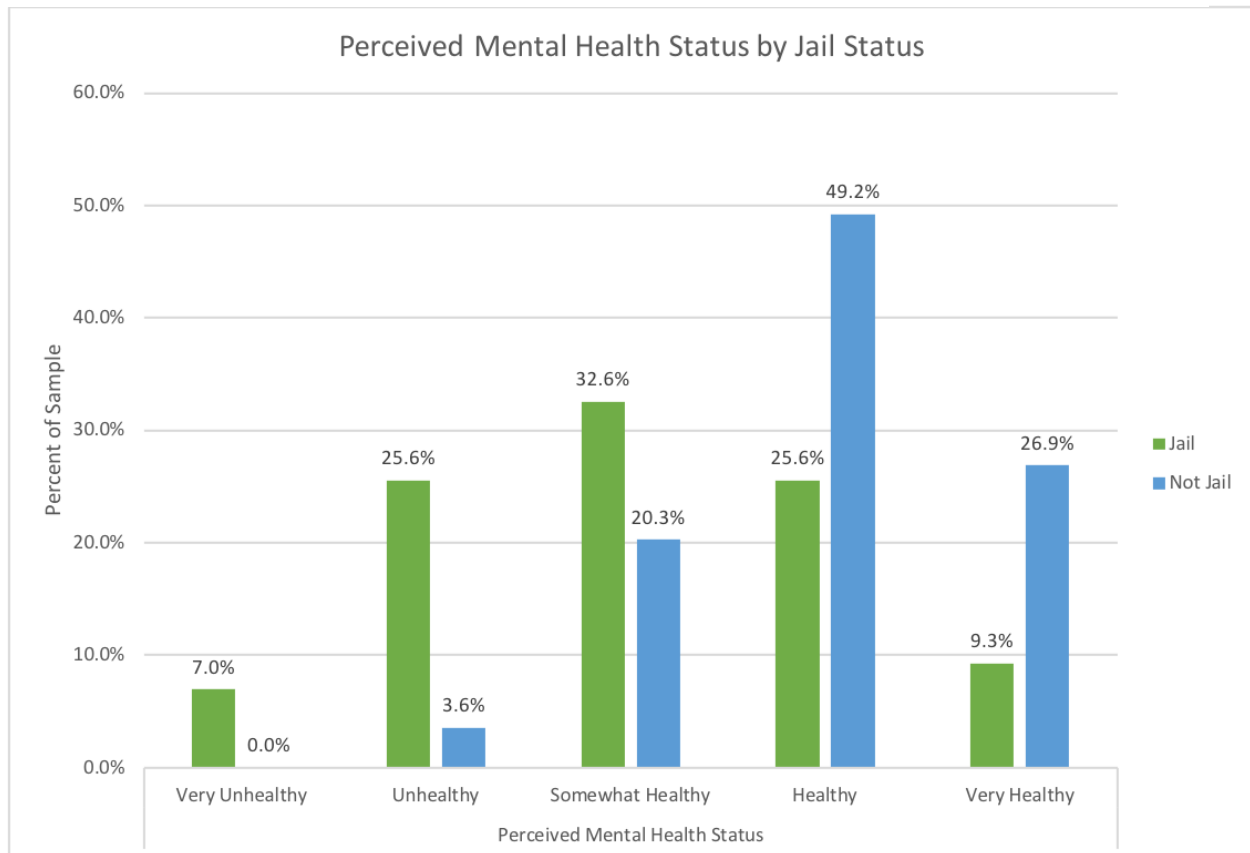
The chi-square test demonstrated that there is a significant difference between the proportion of diagnoses between the jailed and not jailed samples (p<.001), such that that the jailed sample has significantly more diagnoses than the non-jailed sample.

Table 1. Chi-square results of diagnoses by Jail Status

Mental Health Diagnoses?	None	At least one	Total
Not in Jail	343 (86.18%)	55 (13.82%)	398 (100%)
In Jail	21 (48.84%)	22 (51.16%)	43 (100%)
Total	364 (82.54%)	77 (17.46%)	441 (100%)
Pearson chi (2) = 37.5520			Pr = 0.000

How people perceive their own mental health is estimated through the measure of the mental / emotional health status. A higher proportion (6%, n=3) of people in jail rated their mental health as “very unhealthy” than those not in jail (0%, n=0). Similarly, a higher proportion (26%, n=11) of people in jail rated their mental health as “unhealthy” compared to those not in jail (4%, n=14). On the other end of the scale, 76% (n=301) of people not in jail rated their mental health as either “healthy” or “very healthy” compared to only 35% (n=15) of people in jail.

Figure 6. Perceived mental health score by jail status



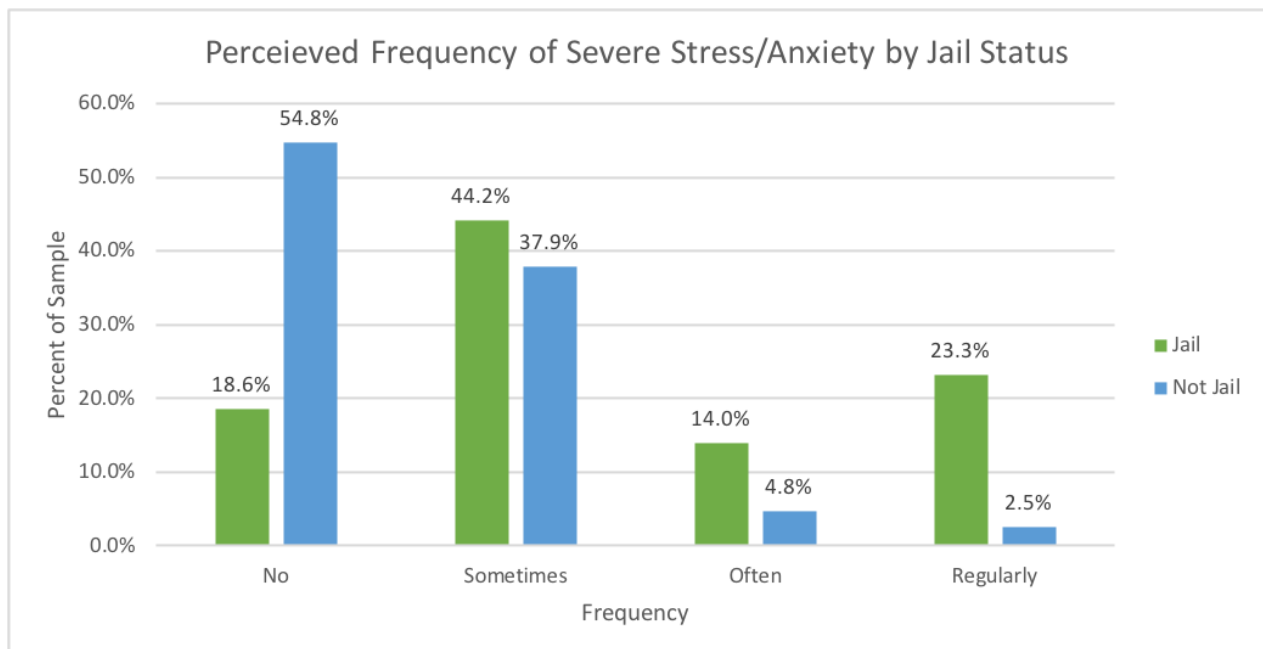
When responses are grouped for analysis the response options are “healthy” (very healthy, healthy, somewhat healthy) or “unhealthy” (unhealthy, very unhealthy). A chi-square test revealed significant differences between the two samples at a .001 level. This suggests that people in jail perceived their health to be significantly worse than those not in jail.

Table 2. Chi-square results of perceived mental health by Jail Status

Perceived Mental Health Rating?	Healthy	Unhealthy	Total
Not in Jail	380 (96.44%)	14 (3.55%)	394 (100%)
In Jail	29 (67.44%)	14 (32.56%)	43 (100%)
Total	409 (93.59%)	28 (6.41%)	437 (100%)
Yates corrected chi (2) = 49.66 Pr = 0.0000			

How people perceive the severity of their stress and anxiety was estimated by the measure frequency of stress and anxiety interfering on one’s ability to function normally. People in jail perceived their stress and anxiety as more frequently interfering with their ability to function normally. The percentage of people in jail who reported stress and anxiety “regularly” impacts their normal function was 23% (n=10) compared to 3% (n=10) not in jail. The percent of people in jail who reported stress and anxiety “often” impacts their function was 14% (n=6) compared to 5% (n=19) not in jail. The percent of people in jail who reported that stress and anxiety had “no” impact on their ability to function was lower (18%, n=8) than the percent of people not in jail who were also not impacted by stress and anxiety (55%, n=218).

Figure 7. Perceived stress and anxiety severity by jail status



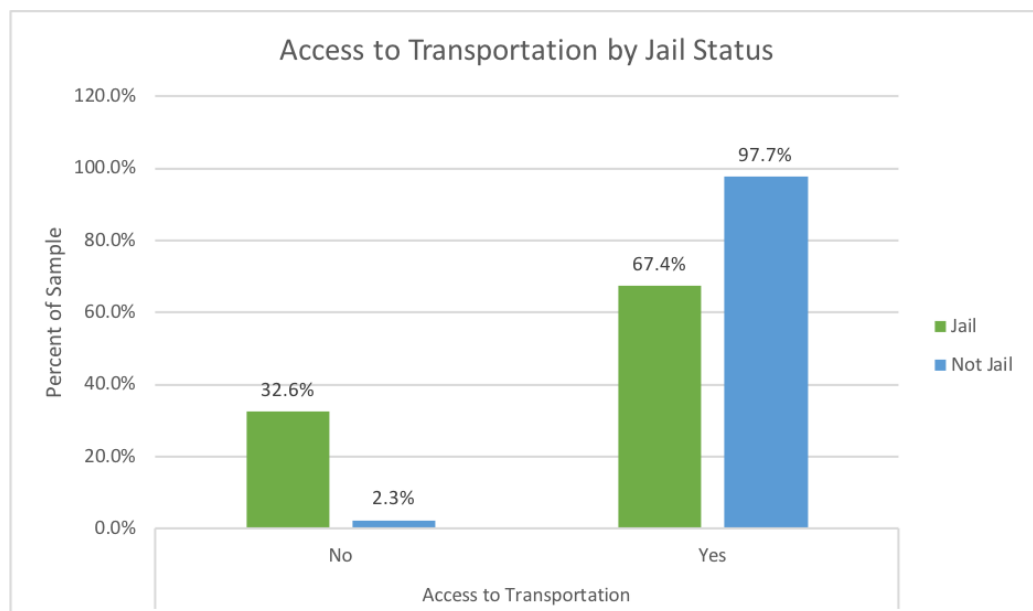
When responses were grouped for analysis the response options became “frequent” (regularly and often) and “not frequent” (no and sometimes). A chi-square test revealed significant differences at a .001 level between the proportion of people in jail (37% n=16) who perceived their stress and anxiety to frequently impact their ability to function normally, compared to those not in jail (8% n=29).

Table 3. Chi-square results of perceived frequency of severe stress / anxiety by Jail Status

Perceived Frequency of Severe Stress/ Anxiety?	Not Frequent	Frequent	Total
Not in Jail	369 (92.71%)	29 (7.28%)	398 (100%)
In Jail	27 (62.79%)	16 (37.21%)	43 (100%)
Total	396 (89.79%)	45 (10.20%)	441 (100%)
Yates corrected chi (2) = 34.73 Pr = 0.00000			

Another difference that is partially obscured by the differences in sample size is access to transportation. Approximately 97% of people not in jail (n = 389) had access to reliable and affordable transportation. This is compared to 67% of people in jail (n = 29) with access. The majority of those without access were in the jailed sample, 33% (n=9) of the jailed sample did not have access to reliable transportation, compared to only 3% (n=14) in the not in jail sample.

Figure 8. Access to reliable and affordable transportation by jail status.



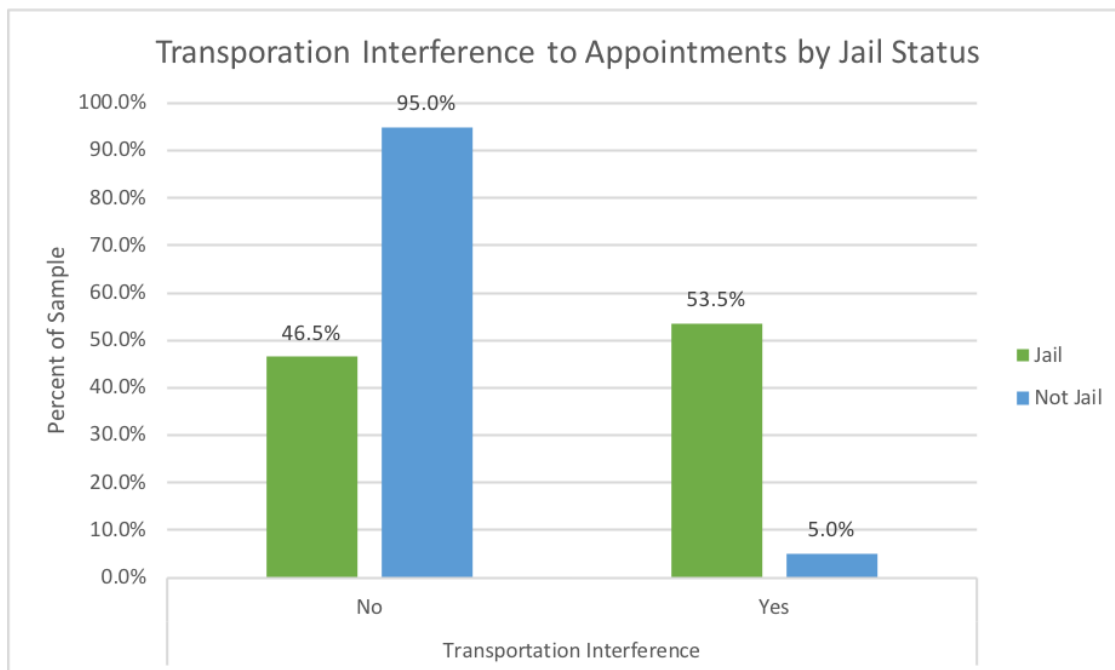
When these differences are compared through a chi-square analysis, they were found to be significant at the .001 level. This suggests that jailed status impacts a person’s access to reliable and affordable transportation.

Figure 4. Chi-square results of differences to access in transportation by jail status

Access to Transportation?	No	Yes	Total
Jail	9 (2.26%)	389 (97.74%)	398 (100%)
Not in Jail	14 (32.56%)	29 (67.44%)	43 (100%)
Total	23 (5.22%)	418 (94.78%)	441 (100%)
Pearson chi (2) = 72.0577			Pr = 0.000

The question then becomes do these affordability and reliability issues interfere with their ability to get to appointments with healthcare providers? In the jail sample 53% (n=23) of people responded that they had issues getting to appointments due to transportation, compared to only 5% (n=20) of people not in jail with interference issues.

Figure 9. Transportation interference getting to appointments by jail status



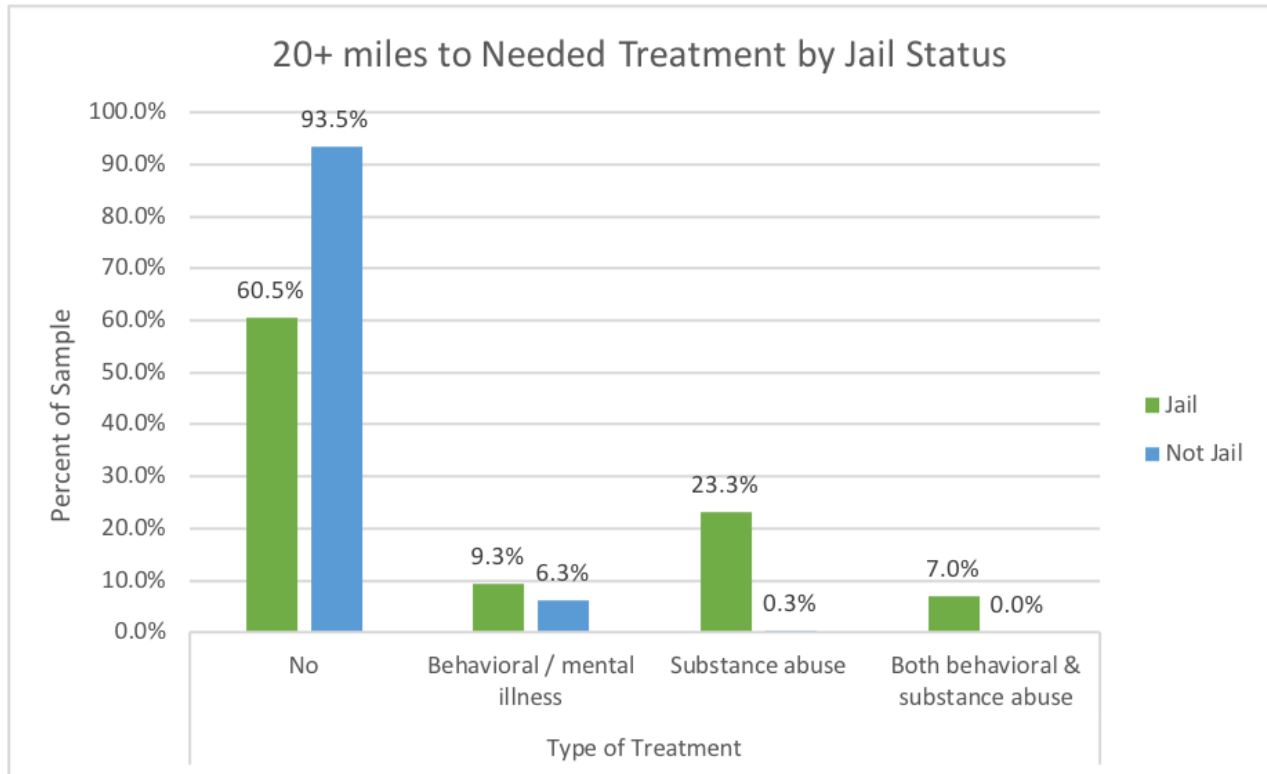
Again, these differences were compared using a chi-square test and were found to be significant at both the .001 level, suggesting that being in jail is related to how much of a barrier transportation can be in regards to getting to healthcare appointments. It was suggested that in a rural area, distance may play a role in this struggle interference.

Table 5. Chi-square results for sample differences in transportation interference getting to

Transportation interference getting to appointments?	No	Yes	Total
Jail	378 (94.97%)	20 (5.03%)	398 (100%)
Not in Jail	20 (46.51%)	23 (53.49%)	43 (100%)
Total	398 (90.25%)	43 (9.75%)	441 (100%)
Pearson chi (2) = 103.5771			Pr = 0.000

The frequency of having to travel more than 20 miles to mental health treatment was compared between sample groups. Originally differences in several types of treatment “mental / behavioral healthcare”, “substance abuse treatment providers”, or “both” were compared. 94% (n= 372) of people not in jail did not have to travel more than 20 miles to receive any of these treatment services compared to 60% (n=26) in jail who did not have to travel. This may be because the not in jail sample does not use or need these services as frequently as the in jail sample. However, based on the diagnosis question, almost 14% (n=55) of the not in jail sample had either a diagnosed mental illness, SUD, or both. But of people not in jail only 6% (n=25) said they had to travel over 20 miles for mental behavior health treatment, and only 0.25% (n=1) said they travelled for SUD treatment. Compared to the jail sample, 9% (n=4) had to travel for mental behavioral health treatment and 23% (n=10) had to travel for SUD treatment, and 6% (n=2) had to travel for both. This suggests that people not in jail have more access to treatment options that are not as far away for reasons that are not fully understood.

Figure 10. Treatment types 20+ miles away by Jail Status



Although there were differences in the sample groups between these categories, there were cell sizes smaller than 5 for substance abuse treatment among the non-jailed population, which was problematic during analysis. To address this, the results were aggregated so response options were “none” and “at least one” (mental behavioral health treatment, substance abuse treatment, and both).

Almost 40% (n=17) of the jailed population had to drive more than 20 miles to mental / behavioral treatment, substance abuse treatment, or both. This was compared to the 6.53% (n=26) of the non-jailed sample. Those aggregate differences were found to be significant at the 0.001 level.

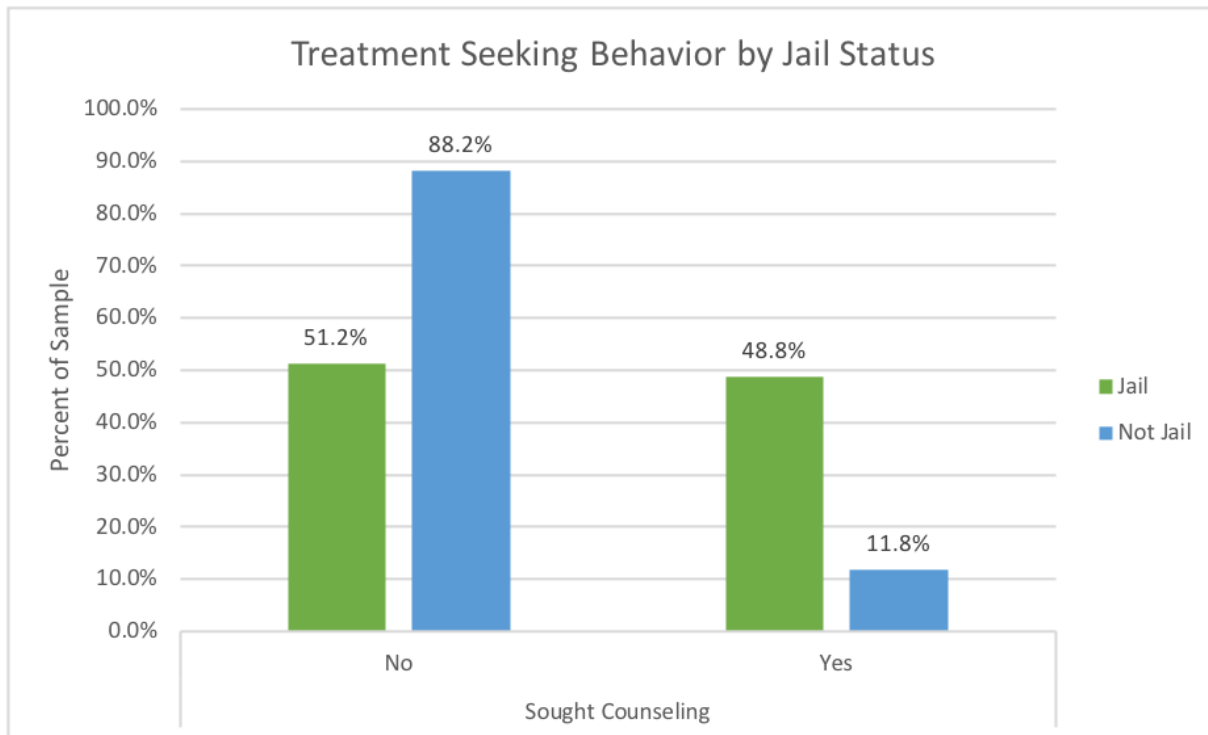
Table 6. Chi-square results for differences in samples traveling 20+ miles to at least one kind of

20+ miles to treatment?	None	At least one	Total
Jail	26 (60.47%)	17 (39.53%)	43 (100%)
Not in Jail	372 (93.47%)	26 (6.53%)	398 (100%)

Total	398 (90.25%)	43 (9.75%)	441 (100%)
Pearson chi (2) = 48.0314		Pr = 0.000	

Despite the transportation issues that may be at play among the sample of people in jail, there were differences in the frequency of treatment seeking between the two samples. In the jail sample, 48% (n=21) have sought treatment, compared to only 12% (n=47) in the not-jailed sample.

Figure 11. Treatment seeking behavior percentages by jail status



To test the significance of this difference, a chi-square test was performed, which demonstrated a significant difference between those in jail and those not in jail at the .001 level. This suggests that those in jail were much more likely to seek treatment than those not in jail.

Table 7. Chi-square results for differences in samples treatment seeking behavior by jail status

Sought Mental / Behavioral Health Treatment?	No	Yes	Total
Jail	22 (51.16%)	21 (48.84%)	43 (100%)

Not in Jail	351 (88.19%)	47 (11.81%)	398 (100%)
Total	373 (84.58%)	48 (15.42%)	441 (100%)
Pearson chi (2) = 40.7978			Pr = 0.000

Discussion

Comparisons between the sample groups demonstrated significant differences among those in the jail sample compared to those not in jail. Perceptions of mental health were worse among people in jail. Mental health rating was lower overall in the jail sample, which could be related to the higher proportion with a diagnosis, but could also be related to their current incarceration, which has been found in research that contact with the criminal justice system contributes to mental illness. Therefore, it is possible that even without a diagnosed mental illness, people in jail perceive their mental health as worse. Similarly, severe stress / anxiety was more frequent in the jailed sample. This again could be related to diagnoses, and the state of being in jail leading to stress and anxiety or they could just perceive their stress and anxiety as more frequent.

The overall proportion of the jail sample with any diagnosed mental illness (51%) is much higher than the national average of 25% in local jails. This may be due to self-reported errors or that the jail sample group was not representative of the entire jailed population in Hopkins County. When the diagnosis results were aggregated some of the differences between the sample groups were lost. The proportion with a diagnosed mental illness is very similar in both samples. The distinction between these groups seems to be the proportion of people in jail with a substance use disorder. This is consistent with other findings in literature and speaks to the impact of the criminalization of SUD. Therefore, addressing substance use disorder treatment may need to be a higher priority for the Hopkins County jail. In addition, mental health treatment seeking behavior was significantly higher in the jailed sample compared to the not in jail sample.

Perceptions of mental health have been identified previously as an important factor to mental health treatment seeking, however it has not been compared so directly with other factors such as transportation access and needing services far away. The results suggest that personal perceptions of one's mental health strongly influence seeking out mental health treatment services. The significantly higher proportion of diagnosed mental illnesses and worse mental

health perceptions in the jailed population suggests an overall need to examine the existing mental health treatment services, available in the Hopkins County jail, and the processes for referral to services after release, including how social factors such as housing and employment are addressed after release.

All transportation-related issues were also worse in the jailed sample. People in jail were more frequently unable to access reliable or affordable transportation, indicated more often that transportation had interfered with their getting to appointments, and more frequently needed services that were over 20 miles away. Despite having these higher rates of transportation issues, the jailed sample had a much higher proportion of people seeking treatment services. This suggests that the transportation related variables were influenced by other factors. It is possible that transportation issues did interfere with seeking treatment behavior, but because the proportion of diagnosed mental illnesses was so high in the jailed sample, this interference was not enough to significantly change treatment seeking behavior. This possibility could be more closely examined between samples with more similar rates of mental illnesses to fully understand the impact of transportation.

The results of this study suggest that even though there were several transportation related barriers to treatment seeking among the jailed population, they still sought treatment services more often than the non-jailed sample. This suggests that a larger influencer in Hopkins County for seeking mental health treatment is how individuals view their own mental health. Other literature has showed that this is related to beliefs about mental health and stigma in the community. As mentioned previously, a study showed that in certain populations there are beliefs that mental illness is caused by external factors and is not a real disease. The presence of these exact beliefs cannot be certified in Hopkins County. However, if those or similar beliefs existed in Hopkins County it would impact the likelihood of people seeking treatment. Other studies that have been done in rural communities have shown that stigma regarding mental illnesses is prevalent, due to symptoms of mental illness violating traditionally held values. A potential area for further study would be to identify common beliefs about mental illness in Hopkins County to confirm or reject the presence of stigma or misconceptions.

There have been several interventions implemented in communities that focus on reducing stigma surrounding mental illness and improving treatment seeking behavior. School based suicide awareness and mental health education interventions have some evidence of

improving knowledge of mental illnesses and dealing with symptoms of depression. (Calear, 2010). Other interventions such as changing laws surrounding what level of mental health coverage insurers are required to offer, have been shown to increase use of mental health services (American Psychology Association, 2010).

There are several limitations of this study. First, although this study uses jail status to distinguish sample groups, the survey tool itself was not designed for people in jail and did not address the impacts of jail on mental health. Because of this some questions could be interpreted differently by people in jail. For example, the question about having reliable and affordable transportation could be interpreted as current access to transportation in jail (which would be none), or their access to transportation before they were in jail. These interpretation issues could have produced results that are not consistent with actual transportation access in Hopkins County among the jailed population. Other variables assessed in this study may also have been interpreted differently among the jailed sample, suggesting that the results may not be an accurate representation of the jailed sample.

Another limitation is that the recruitment of participants in this survey is still not fully known. The physical locations that paper copies of surveys are not known concretely. This information could potentially explain the over-representation of women in this data if the locations paper copies were available was known or the advertising strategy was known. The creators of the Community Health Needs Assessment had found in previous assessments that women in Hopkins County were more likely to participate in these volunteer surveys. It is possible that factors such as advertising on social media, or women more actively seeking healthcare contributed to the higher response rate (84%) of women. This issue limits the ability of the results to be generalized to men in Hopkins County. This is particularly problematic considering that the two samples that were being compared had such different gender distributions. This severely limits the ability to actually compare these results since their populations are so different, especially because there are gender disparities when it comes to mental illnesses.

Finally, it must be understood that this data was not collected with research purposes. Therefore, these results should not be generalized or assumed to apply to any population other than Hopkins County. Results of Community Health Needs Assessments in general are only

intended to represent the needs of that community and therefore applying these results to other communities is not something that should be undertaken.

These overall findings lead to possible options for improving mental health treatment seeking in Hopkins County, especially among those in jail. First, it would be necessary to change misconceptions about mental illness. This could most effectively be done through mental illness awareness campaigns, or mental illness educational sessions, specifically in the jails. This option may not be functional in Hopkins County, especially if following these sessions, the jails would then be responsible for meeting the mental health needs of inmates. Because of this, the Hopkins County jail may not want to pursue this option. Another option would be to target an educational or awareness campaign to the entire community. This would have an increased cost, but could reduce stigmatized perceptions of mental illness overall which could change the way people perceive mental illness in general, and increase treatment seeking.

Conclusions

Mental illnesses are very prevalent in jailed populations and there is a strong need for better understanding of the barriers to getting this population to seek mental health treatment services. Therefore, the purpose of this study was to identify the factors assessed in the Community Health Needs Assessment that most strongly influenced mental health treatment seeking behavior between samples of people in jail and people not in jail. This study has contributed to the existing body of research through the assessment of mental illnesses in a rural jailed population. Since personal perceptions of mental health were in general worse in the jailed population, and indicates their need for increased mental health treatment services. This study also examined a range of potential factors that influence treatment seeking behavior. Through this analysis, it has been identified that the most influential factors were how a person perceived their own mental and emotional health, and how frequently they perceived their stress and anxiety to be severe. This suggests that personal views of mental illness are paramount to influencing mental health treatment seeking behavior.

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