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EASTERN KENTUCKY UNIVERSITY

The Relationship Between Place and Depression: The Effects of Socioeconomic Status
on Mental Health in McCreary County, Kentucky

Honors Thesis

Submitted

in Partial Fulfillment

of the

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By

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Faculty Mentor

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Department of Health Promotion and Administration

THE RELATIONSHIP BETWEEN PLACE AND DEPRESSION

Abstract

The Relationship Between Place and Depression: The Effects of Socioeconomic Status on Mental Health in McCreary County, Kentucky

Beth Vanover

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There is an increased rate of poor mental health days in McCreary County, Kentucky, related to low socioeconomic status compared to other counties in the Commonwealth. This correlation is shown by examining the area's socioeconomic indicators, such as the population's educational attainment, employment rates, average household income, rates of poverty, and comparing these statistics with the rate of poor mental health days. Additionally, as part of the current study, residents of McCreary County were interviewed to elicit feedback on ways in which living and working in McCreary County can contribute to a poor mental health. Subsequently, these qualitative interviews were thematically coded to help the researchers better identify problematic themes in the community. After identifying contributors to McCreary County's rate of poor mental health days, implications are discussed and possible solutions are provided.

Keywords and phrases: depression, poor mental health days, socioeconomic status, rural, Kentucky, honors thesis, qualitative research, undergraduate research

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Introduction

Depression is the leading cause of disability worldwide, affecting more than 300 million people of all ages, and contributes significantly to the overall global burden of disease (World Health Organization [WHO], 2018). The National Institute of Mental Health (NIMH, 2016) classifies depression as the most common mental illness, which is a serious mood disorder that affects how one feels, thinks, and handles daily life. To be diagnosed with depression, the symptoms must be present for at least two weeks, which can include feelings of guilt, worthlessness, or sleeping too much (NIMH, 2016).

Additionally, pessimism, hopelessness, irritability, restlessness, fatigue, loss of interest in things that were once pleasurable (including sex), changes in eating patterns, disturbed sleeping patterns, unceasing aches, pains, and/or headaches, and suicidal thoughts or attempts (NIMH, 2016). Depression can be caused by any combination of genetic, biological, environmental, and psychological factors (Belmaker and Agam, 2008). Some factors that can increase one's chances of developing depression include having blood relatives who have had depression, experiencing traumatic events, going through a major life change, having a medical problem, taking certain medications, or using alcohol or drugs (American Psychiatric Association, 2013). Even though depression can affect anyone, it is well established that certain groups are more adversely affected than others; socioeconomic status is one of the primary contributors to this difference and an overall key determinant of health (Flaskerud & DeLilly, 2012). Socioeconomic status most often is measured by one's education, income, and occupation (American Psychological Association [APA], 2018). These factors can inadvertently affect one's housing, nutrition, physical and mental health, and overall quality of life (APA, 2018). Those with

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a lower socioeconomic status are at a much higher risk of facing health problems, including developing mental health issues like depression (Hoebel et al. 2017).

In 2016 it was found nationally that in the past 30 days, 3.6 percent of adults aged 18 and over experienced serious psychological distress (CDC, 2017). This same group was more likely to be uninsured than adults without serious psychological distress (CDC, 2017). The CDC (2017) also found that as income increased, the age-adjusted percentage with serious psychological distress decreased, suggesting that income plays an important role in mental health. In 2005-2006, the National Health and Nutrition Examination Survey found that more than one out of seven Americans classified as poor had depression (CDC, 2010). For all age groups, women were more likely than men to have serious psychological distress (CDC, 2017).

Kentucky is an important location to study when considering the role of socioeconomic on mental health because the Kentucky Department for Public Health reported that Kentucky has the second highest number of mentally unhealthy days in the United States (2013). McCreary County holds significance because the Behavioral Risk Factor Surveillance System (Kentucky Health Facts, n.d.) reported that they had the second highest number of poor mental health days in the state of Kentucky. Additionally, McCreary County has been an economically distressed Kentucky county since the fiscal year of 2002. This assessment was determined from the Appalachian Regional Commission's (ARC) index-based county economic classification system; the distressed status means that the county had a poor average for the three economic indicators, three-year average unemployment rate, per capita market income, and poverty rate, compared to national averages (ARC, 2018). Furthermore, County Health Rankings and Roadmaps

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(2017) reported that McCreary County's quality of life ranked 116 out of 120 counties in the state.

The current study explored the relationship between socioeconomic status and depression by examining rural McCreary County, Kentucky and assessing variables such as education, average household income, employment rates, poverty levels, and average number of poor mental health days per month. Poor mental health days are defined as days when mental health, including stress, sadness and depression, and problems with emotions, was not good (Kentucky Health Facts, n.d.). To supplement the correlation between socioeconomic statistics and the rate of poor mental health days in McCreary County, interviews were conducted with McCreary County residents to gain feedback from the community to learn what ways they perceived living and working there might contribute to a poor mental health day. After identifying contributors to McCreary County's rate of poor mental health days, implications are discussed and possible solutions are provided.

Background and Literature Review

McCreary County

There are 17,511 people in McCreary County, of which 91.4 percent are white, 5.5 percent are black or African American, 0.7 percent are American Indian or Alaska Native, 0.1 percent are Asian, and 0.8 percent are other (U.S. Census, 2010). Of the community, 72.2 percent have a high school education or higher, while only 7.7 percent have a bachelor's degree or higher (U.S. Census, 2010). The comparable rates for the state of Kentucky are 84.2 percent and 22.3 percent respectively. In McCreary County,

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only 37.5 percent of the population aged 16 and over for the years 2011-2015 were in the civilian labor force, and 35.6 percent were employed in Kentucky (US Census, 2016).

The median household income is \$19,328 in McCreary County, compared to \$43,740 for Kentucky. In 2015, 41.5 percent of people in McCreary County were in poverty, while the state average is 18.5 percent (U.S. Census, 2016). Kentucky Health Facts (n.d.) reported an average of 6 mentally unhealthy days per month for McCreary County, while the state of Kentucky had an average of 5. **Table 1** depicts a concise comparison of rural McCreary County's socioeconomic statistics to the relatively urban Fayette County's, both of which can be compared to the state of Kentucky. The table represents that each respective location's poor mental health days correlate across the board with their socioeconomic indicators.

All these statistics remain congruent with the medical literature. McCreary Co. has a less educated population, lower employment rate, lower average household income, and a higher percentage of the population in poverty, all correlating to their higher rate of mentally unhealthy days per month. This data supports the idea that there is a strong relationship between socioeconomic status and depression.

Economics

It is important that we understand the economic toll that depression can take on an affected individual because it provides the context for a larger societal problem. Major depressive disorder was estimated to have cost the United States \$173.2 billion in 2005 and \$210.5 billion in 2010, with 45%-47% being attributable to direct patient costs, 5% to suicide-related costs, and 48%-50% to workplace costs (Greenberg, Fournier, Pike, & Kessler, 2015). Reduction in workplace productivity is an enormous cost, amounting to

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as much as \$33 billion annually (Wang, Simon, and Kessler, 2003). Additionally, primary care patients with depression incur more medical costs than those without depression (Donohue & Pincus, 2007). This demonstrates that depression is not only personally taxing but can also place a strain on the economy and impact society.

Rost, Adams, Xu, and Doug (2007) conducted a preplanned meta-analysis where they analyzed an eleven-state database over a period of two years, testing for differences in hospitalization rates between urban and rural residents with depression. The researchers examined measurements of physical comorbidity, baseline anti-depressant use, treatment attitudes, insurance, and intervention. Rost et al.'s (2007) meta-analysis concluded that individuals with depression residing in rural areas were more likely to be hospitalized for both physical and emotional problems than their urban-residing counterparts. It was also determined that there are no clinical benefits to this increased hospitalization rate. Rost and colleagues additionally found that even after controlling for recent outpatient care, the difference in hospitalization rates for the depressed rural versus urban individuals remained (2007). This is particularly important for rural areas because they are already at a disadvantage in being more likely to have a lack of resources and care services, and residents are more likely to be impoverished and less likely to be insured (Newkirk and Damico, 2014). As a hospital visit is considerably more costly than a primary care or mental health services visit, this could place an immense financial burden on rural individuals. Especially when considering that there were no clinical benefits from this increased hospitalization rate, depressed rural individuals should not have such high hospitalization rates.

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Rost and colleagues (2007) determined these increased hospitalization rates could be decreased if better and more comprehensive services were available for rural individuals, which led them to suggest the concept of integrative care. Since rural individuals are being hospitalized for depressive symptoms at higher rates than urban individuals are, if behavioral and mental health services were integrated with primary care services, the admittance rate of depressed rural patients could be exponentially offset, and it could reduce the overall number of unnecessary admittances (Rost et al., 2007).

Correll, Cantrell, and Dalton (2011) studied the role of integrative care in its early stages in the Friend-in-Need Health Clinic (FIN), a primary care facility that caters to rural areas on the Tennessee-Virginia border and to individuals that are uninsured. The clinic utilized behavioral health consultants (BHCs), who were expected to acclimate to the medical provider's average appointment time of fifteen minutes, even though mental health providers generally operate on a fifty-minute appointment slot (Correll, Cantrell, & Dalton, 2011). This design helped address time issues, a barrier for many patients. The medical providers were largely enthusiastic about the integration of behavioral health services with primary care services, as the mental health notes could readily be reviewed on the patient's medical chart, helping them to more quickly make informed decisions and provide more comprehensive care (Correll, Cantrell, & Dalton, 2011). Additionally, patients were open to the nature of this arrangement and frequently agreed to meetings with the BHC. This design for care helped individuals overcome other barriers such as cost and stigma, as the integration of services helped decrease overall cost and the patient did not have to go out of their way to seek mental health help because it was readily

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available in their regular primary care office, helping to normalize the idea of mental health (Correll, Cantrell, & Dalton, 2011).

Socioeconomic Status

Socioeconomic status (SES) is measured through one's education, occupation, and income (Flaskerud & DeLilly, 2012). Social inequality is multidimensional, which reinforces the use of multiple indicators to determine SES (Hoebel et al. 2017). Geyer et al. (2006) explained that education, occupation, and income cannot be used interchangeably, because each one reflects different phenomena and highlights different influences of social inequalities in health.

Understanding the role of SES is crucial as epidemiological research has consistently shown a graded association between SES and health (Hoebel et al. 2017). The lower that one's SES is, the poorer their health and the greater their risk of mental health issues, chronic disease, and premature death (Hoebel et al. 2017). Particularly, anxiety and mood disorders, like depression, are more prevalent in lower socioeconomic groups than they are in higher socioeconomic groups (Hoebel et al. 2017). The association of SES and health has been observed across cultures and racial/ethnic groups (Everson, Maty, Lynch, & Kaplan, 2002). Additionally, patterns of SES influence on health can be seen early in life and persist across the life course (Everson et al., 2002).

Barriers

Goodman et al. (2013) examined important barriers faced by impoverished individuals and how those barriers adversely affect utilization of treatment. Barriers included practical barriers, psychological barriers, and stigma. Practical barriers consist

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of things like transportation, wait time, and time away from work. Rural individuals can have difficulty securing transportation to and from their appointments (Goodman et al., 2013). Wait time was another identified barrier, as individuals may not have the time to get to an appointment, wait to be seen, and then assessed and finally treated (Goodman et al., 2013). Additionally, repeat sessions, such as outpatient therapy, could be seen as quite time-consuming. Time away from work can be difficult for any individual to get approved, but rural individuals carry the additional burden of loss of necessary income for that day off, compounded with the fact that the individual may have to pay out-of-pocket for treatment (Goodman et al., 2013). Consequently, time off from work can be a major barrier for many rural individuals.

Psychological and social barriers include perceived levels of empathy and understanding from the therapist. Many low-income individuals have reported a lack of empathy and understanding from their providers. They worry that their providers do not understand their situations because of the difference in social class (Goodman et al., 2013). Notably, poor women have reported many negative experiences from health care providers due to the provider showing disrespect, lacking empathy, or being wholly unhelpful (Goodman et al., 2013). This can lead many to withhold or modify information when reporting it to their provider, for fear of judgement or being worried that the provider would not understand (Goodman et al., 2013).

The third barrier Goodman and colleagues (2013) discussed, related to psychological barriers, was stigma. It has been shown that people stigmatize the poor and associate them with words like “unmotivated, uneducated, unpleasant, dirty, angry, stupid, criminal, etc.” (Jones et al., 2011). Jones et al. explained that stigma can rob the

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mentally ill of opportunities, concerning employment or even living independently, and negatively influence their decision about treatment (2011). Those living in rural areas face much greater rates of stigma than those in urban areas (Jones et al., 2011). Urban individuals are more likely than rural individuals to agree with health professionals about the prescribed treatment, suggesting that urban residents may not carry the same level of mistrust or perceptions of stigma that rural, low-income residents do, which may be related to higher educational attainment within urban populations (Jones et al., 2011). Additionally, depression literacy was associated with lower stigma scores, meaning that the more individuals understood and were aware of depression, they were less likely to stigmatize those that were affected by it (Jones et al., 2011).

Given these barriers, therapy may not be as effective for low-income individuals as it is their higher-income counterparts (Goodman et al., 2011; Adams, Xu, Dong, Fortney, Rost, 2006). However, when treatments and services are tailored toward poor families and their needs, there are higher utilization rates and more positive outcomes (Goodman et al., 2011). Additionally, social support systems such as family and friends can be an excellent buffer against stress and are a major indicator of physical and emotional well-being for low-income individuals (Goodman et al., 2011).

Women. Women are an important subgroup to consider when examining stigma because many southern rural women anticipate significant amounts of negative stigma when seeking mental health treatment compared to their male counterparts (Simmons et al., 2008). They also feel a sense of helplessness and loss of autonomy in treatment, because they do not feel they are given the care and treatment necessary to be able to care for themselves (Simmons et al., 2008). This could stem from the fact that they feel their

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providers do not provide treatments that address how they talk about and recognize their depression (Simmons et al., 2008). There is a poor patient-provider relationship among this group, which adversely affects their treatment, adherence to treatment, and overall care. This poor relationship could be a result of patients fearing judgement, having concerns about stigma, or perceiving differences in social class as a barrier. It is crucial that women's concerns about stigma are understood because women are twice as likely as men to develop depression (Addis, 2008).

Method

Procedure

The researchers decided to enrich the quantitative data with input from the community by conducting semi-structured interviews with participants in the target community. An interview guide was created, displayed in **Figure 1**, to help structure the interviews and answer the research question, "What ways do living and working in McCreary County contribute to a poor mental health day?" Before interviews could begin, the researcher had to obtain ethical approval from their Institutional Review Board. After this approval, participants were recruited through purposeful and snowball sampling and then approached with a consent script so that they could provide informed verbal consent. Interviews were scheduled at a time most convenient for the participant and occurred at a neutral location within the county. Interviews were one-on-one, in-person, and semi-structured but guided with the same basic open-ended questions. Interviews were recorded with an audio device and later transcribed by the researcher. Transcripts were then examined and coded using thematic analysis, guided by Glaser and

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Strauss (1967), for common themes that helped identify potential contributors to McCreary County's increased rate of poor mental health days per month.

Participants

Inclusion criteria specified that participants had to be McCreary County residents and be between the ages of 21-65, so that they were more likely to have a work influence on their life and be able to provide feedback on that. In total, there were five individuals that participated in the interviews. There were two males and three females. Both male participants were in their forties. One of them worked out-of-county as a fulltime medical laboratory technician and PRN on the weekends at a hospital. The other male participant was a teacher and librarian at the local high school. One of the females was in her twenties and reported no job. The second was in her forties and a retail worker. The third female was in her late thirties to early forties and worked two jobs, one fulltime as a medical laboratory scientist and another PRN at a hospital.

Results

The open-ended design of the interviews allowed for differences in participant responses, and everyone was able to identify various contributors to McCreary County's increased rate of poor mental health days. However, from the interviews, there were five common themes that emerged. Participants expressed great concern regarding jobs, joblessness and lack of jobs, limited access to healthcare, stigma, and drug use in the county.

Jobs

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Four of the five participants shared that they had a job, and each of these four expressed that their job was a large source of stress in their life. The one participant without a job shared that her boyfriend worked as the provider of their household. Common experiences that contributed to work-related stress included the potential for rude interactions with the public, demanding or lazy coworkers, or having too many responsibilities. All of the participants worked with the public to some degree, and they shared that when people are rude, inconsiderate, or simply careless in how they treated the workers, it could really ruin their day. Furthermore, coworkers could be lazy, and the participant felt that they would have to work harder to pick up their coworker's slack. However, coworkers could also be demanding and pushy, rushing the participant to finish their task so that they could move on. When these events happened often, it could take a toll on the participant. Additionally, having a lot of responsibilities could be stressful for participants. For example, the medical laboratory technician shared that his job was stressful in these ways:

Making sure I report out accurate results with no mistakes. However, it is less stressful than working in a clinical laboratory, which I done for many years, partly because we are not a stat lab. But I also work PRN on weekends at the local hospital in Oneida [Tennessee] and have worked there full time in the past, and the volume of work and required turn-around times for laboratory samples can be stressful, along with keeping instruments running properly and nursing staff and doctors calling for results.

The participant expressed that it can be stressful for them to quickly complete their work, which fellow coworkers rely on for the sake of their patient's wellbeing, while also

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ensuring that it is accurate and keeping everything else in check. This could easily become overwhelming, especially if there was a high volume of patients that day.

In addition to these direct influences at work contributing to stress, all participants felt that their job limited the amount of free time that they had to destress. Participants felt they were not having adequate time to rest, relax, or enjoy everyday activities. Work takes up a lot of their time, which can make them miss important events. One participant was particularly dismayed that her job kept her from being able to attend church and Sunday school as regularly as she would like. When participants are off, they are likely to be tired and may not be able to enjoy many activities. The participant that was a teacher shared this about his job:

I work at the local high school, plus teach dual-credit English classes via ECU. The job is fairly stressful, as I can't seem to stay caught up. ... I work all day, then I spend significant amounts of time at home preparing for class or grading essays. Often, I feel like I don't have enough time to get away from school to decompress. Then there's what I would call "secondary stress" from being around students who don't really value education and hearing news stories about a president and a governor who also do not value public education.

With this participant, it is evident that their job imposes multiple responsibilities, and they do not always have the work and home life separation necessary to destress and relax. Additionally, elements of policy have been affecting their job lately. Policy has the ability to impose considerable stress on individuals, as it can affect areas like their jobs, health care, or insurance, which can impact their personal life and wellbeing.

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Participants also expressed that financial concerns can induce considerable stress for them. Although they may endure a stressful work environment and work many hours each week, they still may not feel financially comfortable. Some participants chose to work two jobs to increase their financial security. One participant detailed how it can be difficult to work enough, pay all of their bills, take care of their kids, and keep their self in good health. The necessity for personal life, relationship, work, or spiritual balance could be stressful for all participants.

Joblessness and Lack of Jobs

In McCreary County, there are very limited opportunities for jobs. There is a severe lack of skill-based jobs, so that most of what is available is likely to be fast-food service or retail work, both of which can be low-paying and high-stress environments. Two participants, the medical laboratory technician and medical laboratory scientist, chose to work out of the county since McCreary County could not offer them jobs in their disciplines. One participant shared this about the lack of job opportunities in the county:

They need to have more jobs in the county, as in more variety, instead of just the same old same old. I think they should bring in jobs dealing with different disciplines like construction or electronics or computers, instead of just building more stores or restaurants. We don't need those types of things; we need other varieties, in my opinion.

This participant expressed a view that was common throughout each interview; McCreary County is lacking in options for employment, especially when considering skill-based jobs. Participants shared that they felt the lack of opportunity in-county could

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be why so many people are jobless, because everyone may not have the means to travel out-of-county for employment, and this joblessness could lead them to require government assistance. Participants felt that this dependence could affect individuals differently. On one hand, those using government assistance could use it to get back on their feet, or they may grow comfortable in that position and decide not to look for work. Another possibility, participants felt, was that those individuals may grow ashamed and guilty, potentially lose their sense of self, and feel demotivated to seek employment. In any situation, the case would be further complicated by the limited options in McCreary for work. When asked if he felt mental health was a serious issue in McCreary County, a participant responded:

Most definitely. The people who were regarded a century ago as being fiercely independent and self-sufficient are now dependent on the government dole. The lure of the safety net is too strong for people to break free and desire success of their own making. They don't know what their role in modern society should be, so they cling to what they know.

He felt that some people who grow dependent on government assistance may begin to lack direction in life, stemming from the fact that so many residents have relied on government assistance for so long. This is partially due to McCreary County having lost its primary industry, coal mining, in the latter half of the 1900's.

In reference to joblessness, one participant commented, "More good-paying jobs may help some people who struggle to find jobs close to home. I feel that a person's self-image is better when they are being productive." These statements reiterate the fact that McCreary does not offer much, which is problematic for many of its residents, and

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people may be more successful and in better mental health if they only had the chance to be. Another participant felt strongly that McCreary County needs to be improved upon in many areas to address the high rate of poor mental health days:

We need entrepreneurial investment to develop additional manufacturing and technology-based job opportunities. We need investment in our schools to make sure that textbooks and libraries are up-to-date. We need progressive leadership that would recognize that wise use of taxpayer money can enhance quality of life. Perhaps most important, we need altruistic leadership in all areas of endeavor: education, business, medicine, industry, and ministry.

Like several others, this participant felt strongly that joblessness and lack of job opportunities in the county played a large role in contributing toward people's poor mental health. This participant also believed that the education system in the county needs more attention so that students can be better educated and more prepared for life. If the education is not up to standard, those students can easily fall behind and be at a disadvantage for the remainder of their lives, as one's primary education experience has the potential to influence if they will pursue higher education or obtain a high-paying job. Additionally, the participant maintained that elements of policy and those leaders need to be more cognizant of their constituents and better serve the community. The participant made clear that truly all areas of life in McCreary County need improvement.

Limited Access to Healthcare

In McCreary County, there are approximately 5 primary care facilities and one health department serving the entire community. These services are limited in what they

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can provide. Most of them operate between the hours of 8:00 AM and 8:00 PM on Mondays through Fridays, and if anyone needs care after hours, they must seek it elsewhere, outside of the county. McCreary has no hospitals or emergency rooms available in the county, so if a resident calls for an ambulance, that ambulance will have to transport the individual at least 30 minutes to the nearest hospital for treatment. Additionally, these services could not support or provide for much beyond a routine physical exam; diagnosis and treatment of pain, mild infections, and non-serious ailments; sexually transmitted infections; and immunizations. This means that if McCreary residents need any special care, like cardiology, dermatology, or neurology, they would have to be referred to a specialist that could be anywhere from 30 minutes to 3 hours away, depending on the care they need. The wait time for appointments and travel time to get there can be a burden for many individuals. Two of the five participants expressed being satisfied with McCreary's primary care services when it came to routine procedures, but all five participants recognized the limited availability and services of these facilities. One participant shared this of McCreary's primary care services:

Doctor's offices around here can be helpful sometimes. I think they try to do their job well, but I feel like we're limited here, especially on the weekends and for special treatments. Like if we need a hospital visit, it's a good thirty minute or more drive.

Another participant also recognized the limited capabilities of the county's services and expressed her dissatisfaction:

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I have very little experience with the healthcare facilities here in the county. My [late] husband went to a clinic in town, but I mostly traveled out of town for my healthcare. At the time I wasn't very satisfied with what the county had to offer in healthcare.

Even those participants who were relatively satisfied with their healthcare in McCreary acknowledged that the county is limited in what they are able to offer.

In addition to their lack of primary care services, McCreary County only has one facility dedicated to mental health services. This service, The Adanta Group, provides outpatient mental health and substance abuse care to individuals and families through individual and group therapy sessions. One participant reported that they were unaware of these services, and only two of the remaining four participants had experience with Adanta, but they both had negative experiences to share. One participant had a traumatic event occur in the family, and had this to say when asked if they were aware of Adanta:

Yes, we did visit a counselor to help my daughter to deal with her anger, depression, and PTSD ... She didn't really feel like they helped her, because she felt she could not trust them to keep her statements confidential. She also felt that they just told her how she should feel.

This participant's unfortunate experience indicates that Adanta gave the impression of being untrustworthy, was dismissive of the patient's feelings, and was ineffective in providing proper treatment. The other participant reported that they "would never use it" when asked about Adanta, because they had similar concerns with confidentiality:

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I have been through [their] counseling before, back where I am originally from, and I didn't like it because everything was supposed to be confidential, and things got told that weren't supposed to be told. Just different little things happened, and I don't trust anyone anymore.

It is evident that trust and confidentiality play an imperative role in mental health care, and Adanta failed to provide that for these participants. If residents throughout the county experience similar treatment or hear of these experiences, many would understandably be discouraged from seeking professional help from this service.

When asked about their own experience with a poor mental health day, three participants reported that they felt they were unable to get the support they need. However, four participants identified family and friends as important groups to help support them in handling poor mental health days. Common responses for participants were that they would turn to their spouse or significant other for comfort, rely on their family for support, or identify work-related problems to their boss so that issues may be resolved.

Stigma

Stigma can be a large barrier for those contemplating mental health treatment. Two participants spoke about stigma, with “weak” and “crazy” being two reoccurring words. Participants feared that they would be seen as weak or crazy for seeking professional help and not being able to handle it on their own. Additionally, they were worried about people simply knowing that they may have mental health issues, because

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they could face contempt from the community. A participant shared this about seeking professional help:

Probably, but I feel like a lot of people expect ridicule, like they might be seen as weak or crazy if they ask for mental health help. Of course, this isn't the case, but mental health isn't discussed openly here and I feel like that contributes to some misconceptions surrounding it. I've had friends think they can do it all on their own or think it wouldn't help them and end up in tough places, or I've heard others say they didn't have the money or resources to go.

This participant identified various barriers that many people could face in seeking help, including stigma, money, and other resources, potentially transportation or time.

Additionally, the participant indicated that there is no open conversation about depression or mental health in the community, which could lead people to develop inaccurate ideas about or erroneous feelings toward mental health and treatment. This lack of conversation and awareness could contribute to the county's negative social norm concerning mental health. Moreover, this participant brought to light another problem: the "do it yourself" mentality. This mentality can stem from issues with stigma, as people are worried about seeming "weak" or "crazy." This can lead individuals to handle everything on their own, and like the participant said, only end up worse off.

The participant that said she would not use Adanta because of confidentiality issues also had this to share on seeking mental health treatment:

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I used to feel put-down and judged all the time when I got help. I feel like that's some of why I don't get help, because people would judge me, or they would think I was crazy for the way I feel.

She identified stigma and prejudice as a direct barrier for her in pursuing professional help. Since people made her feel judged and treated her poorly because of her mental health, it negatively influenced her decision to get help. She put people's perceptions of her ahead of her own wellbeing because she is worried about ridicule and how she will be treated by members of the community. Negative experiences like this can have lasting effects on individuals; it can be difficult for them to overcome adversity and choose to get help, and if they do, by that time the issues they were dealing with could take a substantial toll on their overall health and wellbeing.

Drug Use

Participants also identified drug use as a major contributor to McCreary County's high rate of poor mental health days per month. In McCreary County, there were 2,153 drug arrests per 100,000 population in 2016, compared to 1,476 per 100,000 population for the state of Kentucky (Kentucky Health Facts, n.d.). Participants shared that drug use is a serious issue in the county and affects many families. One participant even described it as "a way of life" for the small town. Several participants expressed that they felt drug use started early in life for many people because of the lack of opportunity in the county and the simple fact that people get bored, so they decide to spend their time experimenting with drugs and consequently get addicted. There are few safe places for kids, teens, and young adults to hang out and spend time together; there are no malls, movie theaters, skating rinks, bowling alleys, or other fun activities available in the

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county for people to spend their free time. The only options residents have are the school's academic team (for students), sports like football or basketball, local sports events, small local parks, or hiking. Many of these activities rely on favorable weather or school being in session and thus are not an option year-round. One participant who felt drugs were a serious problem shared this:

If there was a way to help [drug users], I think it could be better. Here, I don't know if it's teens that use drugs a lot or who, but somehow if we could get teenagers out and involved in different things, and not making them feel like they have to turn to drugs when they are sad or stressed. I don't know exactly what we could do to help it, but I feel like drugs are a huge problem here and need to be addressed. I feel like that would really help improve the county's health.

The idea that offering alternative activities for teens would decrease drug use incidence and prevalence rates was a common one. Participants again expressed the role that family support can play in one's wellbeing and health, as this participant said:

I think living in a place where there is nothing to offer the young people can lead to bad choices and eventually drug use and depression from not living up to their potential. Family support is also important. If a child has been raised to not strive to be better, then they have a chance of not being successful and feeling like the only way to survive is living off of the system or using drugs. This can make a person feel unworthy of doing better and thus lead to depression. Drug use can also lead to depression and feelings of unworthiness, and drugs seem to be a way of life in our small town. Parents may not be there for their children to help build

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their emotional well-being, due to either working 2-3 jobs to make ends meet or just not caring due to drug abuse.

This participant expressed the view that drug use could begin because people have nothing else to do, they feel they have no other options, or there could be an absence of familial support. This lack of support could be due to the parents/guardians having to work long hours or multiple jobs to support the family, or they could be drug users themselves and therefore may have no desire or may lack the knowledge of how to help.

Discussion

Compared to Kentucky, McCreary County's population has a low educational attainment, low employment rate, low average household income, high rates of poverty, and a high rate of poor mental health days per month. McCreary County's high rate of poor mental health days correlates with their low socioeconomic indicators.

Additionally, participants identified that the county's jobs, joblessness and lack of jobs, limited access to healthcare, stigma, and drug use contribute to their increased rate of poor mental health days. McCreary County has a poor built environment, which could stem from their depressed economy. To address the myriad of underlying issues, McCreary County would need a multi-level intervention to improve the area's mental health.

Participants identified their jobs as a major source of stress in their lives, because the patients or customers may be particularly rude, coworkers can be unpleasant and unhelpful, they may face multiple responsibilities at work that can be difficult to maintain all at once, they may have to work two jobs, their relaxation and personal time is severely

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limited, and they may not make enough money to feel financially comfortable.

Additionally, participants felt that joblessness and lack of jobs in McCreary County was a large issue. The county has very limited opportunities for employment and virtually no skill-based jobs. If residents cannot find a job they are suited for, a job that will provide them with enough income, or cannot travel out of the county for work, their only option may be government assistance, which could lock residents into a cycle and they may grow apprehensive about trying to leave this safety net, especially if there are no promising opportunities. These issues suggest that the county would greatly benefit from entrepreneurial and educational investment. If there were more jobs available, with a greater variety and more skill-based jobs, residents would have a higher chance of financial success, and the economy would subsequently benefit. McCreary County could reap the economic benefits of increased employment by being able to offer attractive employment options in the county.

Additionally, there are various barriers that McCreary County residents may face in seeking professional mental health treatment. McCreary County has limited options for health care and services in the county. It is an underserved region, and the services available are open limited hours and can only provide relatively basic care. Any emergency or special care must be transferred out of the county, anywhere from 30 minutes to 3 hours away, depending on the situation. This can impose various practical barriers for residents, like transportation and time. If these individuals do not have the means to get to and from their appointments, they will not be able to go and therefore will not receive the care they need. Time can be an issue as people may not have the time available to drive to and from their appointments, to sit and wait on being seen, to get

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assessed and treated, or the service may be available at inconvenient times, conflicting with personal or work schedules. As Goodman et al. (2013) noted, time off from work can be another important barrier for rural individuals. Many people in McCreary County are impoverished and likely rely on their jobs to provide for their necessities, so they cannot afford to leave work and potentially pay out-of-pocket for treatment. Furthermore, the county's only behavioral health service, Adanta, was identified as being largely unhelpful and residents carried feelings of distrust toward them, as they shared that Adanta had disclosed confidential information in the past. If residents cannot trust their physicians to provide objective help and treatment, then they will be discouraged from returning. Additionally, these poor experiences could negatively influence their decision for any future treatment, whether with different providers or not.

In addition to practical barriers, McCreary County residents face psychological barriers, like stigma. Stigma can be detrimental to an individual's wellbeing. Participants expressed fears of ridicule and disdain from the community. They were worried about appearing "weak" or "crazy." If they expect these negative responses, those with depression or experiencing a poor mental health day are more likely to try and hide their problems, rather than seek professional help and risk being negatively labeled by peers and the community. Some participants explained that the community's stigma associated with mental health may stem from the lack of conversation about it, which could lead many to develop misconceptions. If people do not understand something, they are more likely to respond negatively to it. Unfortunately, McCreary County is a rural area, and Goodman et al.'s (2007) research proposes that therapy is less effective for rural

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populations than it is in urban populations. Therefore, McCreary County may need to consider alternative approaches for care.

One such alternative could be integrating behavioral health services with primary care services. This design for care was shown to help address many both practical and psychological barriers that rural individuals face (Correl et al., 2011). By integrating the behavioral health services with primary care, it would provide a central location for individuals to receive primary care and mental health treatment, if needed. This could encourage a healthier social norm toward mental health because the treatment services would not be a separate entity that individuals would have to go out of their way for; instead, it is readily available at the convenience of their regular primary care provider. This integration could increase the community's awareness about mental health and treatment and prompt a larger conversation about the topics. This could reduce stigma within the community and help those patients feel more comfortable. This design would also promote greater communication between providers, so that they may better understand patient symptoms or be more cognizant of medications or other treatments the patient may be taking or utilizing. The integration of services would ultimately foster more comprehensive care and help address the lack of availability of providers.

The final major theme participants identified as a contributor to McCreary County's increased rate of poor mental health days was drug use. Drug use has been shown to lead to depression and other psychiatric disorders (Brook et al., 2002). Participants identified that drug use is a problem in the entire community, affecting people of all ages, but really emphasized targeting the youth with prevention strategies, so that the problem never begins for them. However, if adults with existing substance

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use disorders are ignored and left devoid of treatment or intervention, they will likely continue to use drugs, which would allow them to continue to hold influence over other community members, including the youth. Thus, drug use and addiction need to be addressed among all age groups and at all levels. By providing targeted youth intervention and education, the community may deter young individuals from engaging in drug use. Hawkins, Catalano, Miller (1992) found that children with multiple protective factors are less likely to engage in drug use. Bernard and Marshall (2001) identified family support as an important protective factor. Participants shared that their family and friends are important social support groups for them, especially when they may be experiencing a poor mental health day. So, if residents are able to find their social support groups and build lasting relationships with one another, then drug use may decrease and mental health may improve in the community. Finally, if the community were to offer more activities and involvement opportunities, young individuals and adults may choose to partake in these events over experimenting with drugs out of boredom. Adults and adolescents could also benefit from increased professional support groups and treatment services, as these are also lacking in the county.

Conclusion

Depression is a serious issue that can be difficult to care for, especially in the context of low socioeconomic areas, like McCreary County, Kentucky. The county's low educational attainment, low employment rates, low average household income, and high rates of poverty complexly intertwine to contribute to the area's increased rate of poor mental health days. Participants helped identify several key contributors to McCreary County's high rate of poor mental health days, all of which were well supported by

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previous medical literature. In addition to their poor socioeconomic indicators, McCreary County has a poor built environment and limited access to health care and other resources. Furthermore, residents may face various barriers in trying to obtain mental health care.

Given these difficulties, the county needs a multi-level intervention. McCreary County's economy would benefit from introducing more jobs, especially skill-based jobs. This economic improvement may be able to assist the county in improving the built environment. Issues with stigma could be addressed by increasing awareness about and understanding of mental health. Additionally, if the county were able to introduce an integrated healthcare approach, many residential barriers may be addressed and thereby improve the county's mental health. The suggestions proposed here could serve as a foundation for beginning an intervention, but additional research is required to develop a more effective multi-level approach to improve the county's mental health. While there are numerous studies examining the role of socioeconomic status in health, there are no existing reports specifically examining McCreary County. This research has provided an additional lens from which to view and address the problem of depression and bridge the gaps between disparately affected groups. A more comprehensive investigation of the contributors to depression and poor mental health days in the county is paramount to the success of future interventions.

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Appendix

Table 1: McCreary County's Socioeconomic Statistics Compared to Fayette County's and Kentucky's.

	High School Degree or Higher	Bachelors Degree or Higher	Employment Rates	Average Household Income	Poverty Levels	Average Poor Mental Health Days per Month
McCreary County	72.4%	7.0%	37.5%	\$19,328	41.5%	6
Fayette County	89.8%	41.2%	67.6%	\$55,775	19.1%	4
Kentucky	84.2%	22.3%	35.6%	\$43,740	18.5%	5

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Figure 1: Interview Guide

1. How long have you lived in McCreary County?
2. Do you have family here? Friends? Can you tell me a little bit about that?
3. Do you work in town? What is your employment situation?
 - In what ways do you consider your job stressful, if at all?
 - What type of limitations do you feel your job might place on your personal life?
4. So, everyone at some point deals with what we call “poor mental health days.” These can include feelings of stress, depression or deep sadness, and problems with emotions. In McCreary County it is reported that on average a person experiences 6 poor mental health days per month. Would you consider this accurate?
 - Have you ever experienced a poor mental health day?
 - What do you think contributed to that?
 - Did you feel you were able to get the support you needed?
 - Are you aware that McCreary County offers counseling services?
5. What might lead someone here to have a poor mental health day?
6. Would you consider mental health a serious issue in McCreary County? Why or why not?
7. How would you rate your overall access to resources in McCreary County?
 - Can you describe your experience with the primary healthcare facilities offered here?
 - Can you describe your experience with the access to proper nutrition, like a variety of fresh foods, that is offered here?

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8. If you had the opportunity, what might you change about McCreary County (whether it be access to resources or care, education opportunities, built environment, etc.) to promote better mental health?