The Relationship Between Locale and the Risk of Mental Health Problems for US Teenagers

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Abstract. The problem of mental health, especially in teenagers, is an important and growing concern in American society. And this problem is not, in any way, unique to the US. It is an increasing global issue. There are many factors in determining a youth's mental well-being. The goal is to look into the relationship between an individual's locale and their risk of getting a mental illness, more specifically, the causes of any disparity found in mental well-being based on locale. First, we will examine the conclusions reached by previous studies. Then, the causes for the correlation will be established by further data and research. From the previous steps, the data indicates that minors in rural areas are in the greatest danger for mental health problems and youths living in urban areas are at less risk. A main cause of this variation is how often youths use mental health services. Urban youths have been found to use it far more often than their counterparts in rural areas. This gap has been traced to four important elements: availability, acceptability, affordability, and accessibility. Without any of these factors, youths will be impeded, if not completely prevented from receiving this critical service which can, and does, save lives.

Key Words: Youth, mental health, rural, urban, causes.

1. Introduction

According to the CDC, the US has witnessed a 40 percent climb in the number of high school students experiencing depression compared from 2009 to 2019. A study by 4 researchers concluded that there was a rise in the number of youths, 17 and under, experiencing anxiety of 27% and the number of youths experiencing depression rose by 24% from 2016-2020 [1]. A child is affected in numerous ways by the environment in which they grow up in. Community members with untreated mental health illnesses like depression and anxiety which are the most common ones, could have negative impacts on many areas of society including healthcare and businesses. Mental illness creates both social and economic costs. The economic costs are not just the money spent on mental healthcare, which amounted to an astonishing 83.6 billion dollars in 2012, but additionally, from income loss because of unemployment, money spent on social supports, incarceration and other indirect costs to society. The social costs include disruption of communities and families and a negative impact for the success of students in schools, not to mention a decrease of general well-being and quality of life. It follows that it is of crucial importance to identify as many key factors to mental well-being as possible. And this has been done to a certain extent. Research has identified several important causes of mental health disorders in youth. The two major categories can be classified as external and internal factors.

Two major external factors would be the parenting styles of parents and inadequate social support. Parenting styles have two major factors: warmth and strictness. Thus, it can be classified into four kinds: authoritarian (low warmth and high strictness), authoritative (high warmth and high strictness), indulgent (high warmth and low strictness) and neglectful (low warmth and low strictness) [2]. Inadequate social support leads to a higher risk of depression and anxiety, especially in individuals suffering from stress. A strong negative relationship exists between social support and depression and anxiety [3].

Two established internal factors are the biological factor and the psychological factor. The biological factor indicates how vulnerable the individual is towards mental disorders from a genetic viewpoint. This may be seen from the reality that depression tends to run in families. A study of twins

found that genes account for about one-third of the risk for severe depression in adults [4]. The psychological factor chiefly concerns an individual's self-esteem and mindset. A study supported the "vulnerability model" which hypothesizes that depression is caused in part because of a youth's low self-esteem [5].

The purpose of this paper is a comparative study between locales and the risk of mental health conditions. By figuring out the causes of why some are more at risk than others for getting mental disorders, we would know more about risk factors and other factors than the ones listed above. Then, the world would be in a better position to figure out how to mitigate this increased risk and also the risk in general.

The next section will be about previous research findings on this topic and other additional background information. Section 3 will be about potential reasons for the increased risk seen in rural children supported by research. Finally, section 4 discusses the findings of this research and concludes.

2. Literature Review and Background

An individual's location can impact their mental health in various ways. The NCES locale framework is classified into four major types: city, suburban, town and rural. For the purposes of this paper, classifying locales into the two main ones -- urban and rural (non-urban) -- is sufficient. There are some studies that have explored this topic including the one in the next paragraph.

One study conducted at the Punjab Agriculture University in India explored the differences in traits of urban and rural children, 16 to 18 years old. The sample population were the 240 students in tenth, eleventh and twelfth grades equally and randomly selected from urban and rural schools of the Ludhiana district. Traits assessed were emotional stability, overall adjustment, autonomy, security-insecurity, self-concept, intelligence and overall mental health. These were measured by the Mental Health Battery by Singh and Sen Gupta, administered to each subject. The study found that on some traits, there were significant differences between rural and urban students but on others, no significant difference was identified. In overall mental health, the urban respondents had better mental health than their rural peers. The authors suggested several reasons such as a poor family environment, lack of awareness on the importance of mental health and a poor relationship between parent and child. The study also concluded that boys have better mental health than girls which may be attributed to the fact that girls are more emotionally sensitive [6].

This study has primarily focused on the personality traits of the participants and the impact of close family members, mostly parents. So the purpose of this paper is to try and identify further causes for this disparity between the mental well-being in the youths living in the two major locales.

3. Causes of the Disparity in the Likelihood of Mental Conditions Based on Locale

The usefulness of mental health services depends on how well they meet the criteria of the 4 A's - Availability, acceptability, affordability and accessibility of the mental health services [7]. Availability incorporates staffing and service shortages, accessibility includes people knowing how and where to obtain services, including travel issues, affordability addresses the costs associated with obtaining care and the availability of insurance to cover costs, and acceptability involves the issues related to stigma attached to finding help for mental conditions. Mental health services are important for helping youths cope with mental health disorders.

3.1 Differences between the Availability of Mental Health Services in Different Locales

Based on the 2020 National Survey on Drug Use and Health, 63% of patients, 12-17 years old, were treated at specialty mental health services, including private psychiatrists, mental health clinics, hospitals and residential treatment centers. Non specialty services include services offered by educational institutions (school counselors, school programs), general medicine doctors (non-

specialized doctors), the juvenile justice system (juvenile detention centers, jails), and child welfare institutions (foster care). To be clear, the data is not mutually exclusive as respondents could and did choose to visit multiple mental health services and responded correspondingly.

Helpful and timely care could be very important in helping individuals suffering from mental conditions. According to National Provider Identifier (NPI) data, in 2015, there were 118.1 counselors per 100,000 people in metropolitan counties and only 67.1 counselors per 100,000 people in rural areas, almost a 50% difference. There are 66.4 social workers per 100,000 people in metropolitan areas compared to 29.9 in rural areas, less than half the amount. Psychologists are 33.2 in metropolitan areas and 9.1 in rural areas, an even greater difference. Psychiatrists are 17.5 in metropolitan counties with a bare 3.4 in rural counties for every 100,000 people. There is an average difference of around 70.28% between rural and urban counties [8].

Another major source of mental health services are educational institutions. These are especially important for school-aged children. Based on the data from National Center for Education Statistics, in total, 51.2% of public schools provide diagnostic assessment services for mental health and 38.3% provide treatment services. In cities, 58.4% of schools provide diagnostic services and 41.7% provide treatment services. In rural areas, 44.3% provide diagnostic services and 37.1%, treatment. Similarly, in the Northeast, 59.4% schools provide diagnostic services, 43.2% provide treatment services, compared to the Midwest, which has a percentage of 42.3% and 39.6%, respectively for diagnostic and treatment services. In the south, 50.9% of schools offer diagnostic and 37.2% offer treatment services. In the west, 54.9% and 35% of schools offer diagnostic and treatment services, respectively. This also supports the fact that rural areas have less mental health services as the midwest and south are very rural while the west is mostly urban and the northeast is the most urban. The northeast leads the percentage of schools offering mental health services. A major reason for inadequate mental health services provided by schools is inadequate funding, reported by 52.1% of all public schools. This is the biggest problem in rural areas at 57%, followed by cities at 53%, then towns at 51.5% and finally suburban areas at 47.4%. In terms of regions, the lack of funding is the biggest problem in the midwest for 55.5% of all schools, followed closely by the west at 54.7%, then the south at 51.8%. The northeast is at 44.4%.

Rural children are more likely than urban children to face mental health problems. Rural mental health services are more lacking than urban mental health services, in various aspects including the number of a variety of medical professionals and programs at schools aimed at addressing the issue of mental health. The results of the above data suggests that the lack of mental health services, which changes based on region and locale, is a risk factor for youths getting mental disorders and for their conditions worsening. For many mental disorders, like anxiety disorders and mood disorders, most commonly depression, an early diagnosis can benefit the individual's quality of life and help manage the mental illness. But simply a diagnosis is not enough. Professional and timely treatment is crucial to help a youth deal with mental health problems. Most treatments include counseling and medication. If left untreated, the problem can worsen and ultimately lead to suicide.

3.2 Differences in the Acceptability of Mental Conditions of Different Locales

A second of the 4 A's is acceptability. Acceptability can mean the stigma the society has towards mental health in general; the acceptability of having mental health conditions. Although Americans on the whole are becoming more open and knowledgeable about mental health and there is less stigma towards individuals with mental conditions, a significant part of society still are uncomfortable talking about mental health conditions and interacting with people with them. A survey conducted by the American Psychological Association (APA) determined that while 87% of respondents (18 and over) agreed that having a mental disorder is nothing to be ashamed of, 39% of people said that they would view someone differently if they had a mental condition and 33% responded that people with mental health disorders make them feel uncomfortable [9]. The topic this section will explore is are there any differences in the acceptability and awareness of mental health conditions between the

population living in rural and urban counties. For this, the focus will be placed on adults as adults are the ones who mostly make the decision to find help for their child's mental condition.

Rural residents often reside in communities that are extremely tight-knight, where everyone knows each other [10]. So when they are parking outside the psychiatrist's office, word might spread of their condition and few people would like to be at the hub of gossip, especially gossip like this. This could heighten the stigma felt by both child and parent.

Another area from which stigma may arise is the lack of support systems, emotionally and socially. Individuals without a primary healthcare provider are more vulnerable to perceiving stigma [11]. This further proves the point made in the Literature Review and Background section of this paper: that social and emotional support is a key influence on individuals' emotional and mental well-being.

Rural residents tend to feel more stigma towards mental health conditions which impacts their decisions for themselves as well as their decisions for their children on finding help from professionals. Two reasons that are gathered from previous research are: 1) the tight-knit quality of most rural communities mean that there is a lack of confidentiality and privacy, and 2) the lack of emotional and social support systems that increases the vulnerability of individuals perceiving stigma. Stigma and the low acceptability of finding help and mental conditions in general prevent many individuals from even trying to find help. Again, timely diagnosis and treatment are a fundamental step towards curing the mental condition and helping individuals to lead good quality of lives. Stigma must be overcome and while the tight-knit quality of rural communities are hard to change, it can be mitigated. For example, mental health offices can be placed in the same buildings as other offices like primary care physicians' offices. This way, rural residents may feel more comfortable going to the mental health professionals' office as they may feel more privacy. The lack of emotional support can only be mitigated by the friends and families as well as other close members of the individual's community. But pharmacists could potentially stand in as support in communities without other mental health professionals like psychiatrists and psychologists [11].

3.3 Differences in the Affordability of Mental Health Services of Different Locales

Rural residents are less able to afford mental health services because of financial situations and also the need for health insurance [12]. The average income per capita for all Americans in 2020 was 59,510 dollars while the income per capita for rural Americans was at 45,917 dollars. As seen from information from the US Department of Agriculture, Economic Research Service, the poverty rate for rural America was at 14.4%, compared to the rate of 11.9% for the whole nation. The poverty rate difference between urban and non-urban areas was the largest for the south, by 5.9%, then 2.9% for the west, 0.9% for the midwest and 0.8% for the midwest. The northeast had the lowest poverty rates for both urban and rural, followed by the midwest, west and south.

Not only does poverty directly cause mental illness from stress, a feeling of hopelessness and depression, it also affects people's mental well-being by preventing them from using mental health services. Poverty as can be seen above is much more of a problem in rural America. This contributes to the disparity seen in urban and rural mental health. One solution is to decrease the cost of mental health services through government funding or to promote insurance companies to cover costs relating to mental health more generously. Another is to encourage more mental health professionals and other doctors to practice in rural areas which are significantly underserved. This way, the costs of going to a medical professional may go down. For example, if the doctor is close by, the traveling fees involved will also go down correspondingly. A further solution is to encourage medical professionals to accept insurance. They often do not accept insurance, let alone Medicaid, as they do not compensate them adequately [13]. Finally, if the government establishes and implements universal health care, this would assure coverage for everyone. The pandemic has impacted the poor the hardest and so this problem is even graver now. So until then, the people most likely to go to a mental health service are those who can pay out of pocket.

3.4 Differences in the Accessibility of Mental Health Services of Different Locales

If people cannot access services that they need, it doesn't matter whether or not those services exist if they cannot be reached by people who are in need of them. The lack of public transportation and shortage of private transportation are key barriers to accessing health services, including mental health services. The problem of transportation can also include not having a reliable vehicle that can travel long distances, not having a driver's license and not being able to afford the fuel and time needed to travel. While there are services designed to expand access to mental services, the lack of widespread broadband coverage limits rural residents' ability to utilize those services. Rural broadband coverage has fallen behind urban coverage. This is most likely to impede the poorest of the population who would most likely lack reliable broadband coverage from utilizing those services [14]. Even for those who can have broadband access, the high cost of technology such as phones, computers and other technology, would prevent them from buying the technology and accessing telehealth services. The pandemic also closed many mental health services because of the quarantine and those people who could access in-person services were not able to continue. Some could move to telehealth but some could not afford to because of numerous reasons.

Accessibility remains a huge problem in rural areas. Whereas people in urban areas can depend on buses, uber, lyft, the subway, the metro and a variety of other transit options, rural areas often lack these services entirely. Rural residents must depend almost entirely on cars and other automobiles for getting around. Rural residents who lack automobiles are usually the ones who are poorest which prevents them from accessing mental health services. Accessibility can be improved by increasing broadband coverage in rural areas and increasing available telehealth services that rural residents living in remote areas can utilize.

4. Conclusion

It is, without a doubt, significantly important and crucial to invest in an adolescent's mental health and well-being. The failure to do so results in a multitude of costs to the youth, their family, the community and ultimately, the world at large. The effects of serious mental health conditions can cascade from the immediate consequences to individuals to every single corner of daily life for everyone on this planet. In order to fix this problem, the vital and unavoidable first step is to find out why some youths are less at risk of getting a mental disorder than others. This insight will allow us to identify risk factors and mitigate and eliminate them, not only for the people most at risk, but for everyone in the general population as well. While some are extremely difficult to correct, for example, the biological factor of genes in an individual, others can be addressed. This paper has supported the hypothesis that the fulfillment of the 4 A's influence the youth's mental health conditions which changes depending on whether a county, or region, is primarily urban or rural. This paper has suggested some possible solutions for the issue of discrepancy of risks of mental health conditions between rural and urban adolescent residents but they are by no means all possible solutions or even the best. We have also seen that the rural and urban disparity mostly impacts the rural poor. The difficulties that they face put them more at risk for getting mental health illnesses in the first place and they are also the ones who are likely to face the dual problems of affordability and accessibility. There are undoubtedly a number of other causes for the difference between urban and rural risks but the lack of availability, the deficit in acceptability, the need for better affordability and the want for increased accessibility in rural areas are among the key factors, further aggravated by the recent pandemic. Studies in the future will have to also focus on scientific methods for solving this problem, given that the causes have been identified. That can possibly be done by brainstorming, testing and evaluating solutions that can effectively eliminate the components that bring about mental disorders.

References

[1] Lebrun-Harris, Ghandour, Kogan, & Warren. (2022, March 14). Five-Year Trends in US children's health and well-being, 2016-2020. JAMA Pediatrics, 176(7), e220056. doi:10.1001/jamapediatrics/2022/0056

[2] Martinez, I., Garcia, F., Veiga, F., Garcia, O., Rodrigues, Y., & Serra, E. (2020, March 31). Parenting Styles, Internalization of Values and Self-Esteem: A Cross-Cultural Study in Spain, Portugal and Brazil. International Journal of Environmental Research and Public Health. doi:10.3390/ijerph17072370

[3] Qi, M., Zhou, S.-J., Guo, Z.-C., Zhang, L.-G., Min, H.-J., Li, X.-M., & Chen, J.-X. (2020, August 1). The Effect of Social Support on Mental Health in Chinese Adolescents During the Outbreak of COVID-19. Journal of Adolescent Health, 67(4), 514-518. doi:10.1016/j.adohealth.2020.07.001

[4] Kendler, K. S., Gatz, M., Gardner, C. O., & Pedersen, N. L. (2006, January). A Swedish national twin study of lifetime major depression. The American Journal of Psychiatry, 163(1), 109-114. doi:10.1176/appi.ajp.163.1.109

[5] Orth, U., Robins, R., & Roberts, B. W. (2008, October). Low Self-Esteem Prospectively Predicts Depression in Adolescense and Young Adulthood. Journal of Personality and Social Psychology, 95(3), 395-708. doi:10.1037/0022-3514.95.3.695

[6] Kaur, A., Kang, T. K., & Sharma, S. (2019, November 8). Gender and Locale Differences in Mental Health among Adolescents. International Journal of Current Microbiology and Applied Sciences, 8(8), 290-303. doi:10.20546/ijcmas.2019.808.034

[7] Wilson, W., Bangs, A., & Hatting, T. (2015, February). The Future of Rural Behavioral Health. National Rural Health Association Policy Brief.

[8] Larson, E. H., Patterson, D. G., Garberson, L. A., Andrilla, C. H. A., & WWAMI Rural Health Research Center. (2016, September). Supply and Distribution of the Behavioral Health Workforce in Rural America. Rural Health Research Gateway, (Data Brief #160). https://depts.washington.edu/fammed/rhrc/wp-content/uploads/sites/4/2016/09/RHRC_DB160_Larson.pdf

[9] American Psychological Association. (2019, May 1). Survey: Americans Becoming More Open About Mental Health. APA. https://apa.org/news/press/releases/2019/05/mental-health-survey

[10] Evans, I. (2018, July 11). Understanding Rural Communities. Hogg Foundation for Mental Health. https://hogg.utexas.edu/podcast-mental-health-rural-communities

[11] Pederson, K. J., Lutfiyya, M. N., Palombi, L. C., Simmons, D. R., Steenerson, D. J., Hohman, K. G., &Huot, K. L. (2013, April). Cross-sectional population based study ascertaining the characteristics of US rural adults with mental health concerns who perceived a stigma regarding mental health issues. Scientific Research, 5(4), 695-702. doi:10.4236/health.2013.54092

[12] Capriotti, T., Pearson, T., & Dufour, L. (2020, February 3). Health Disparities in Rural America: Current Challenges and Future Solutions. The Clinical Advisor. https://clinicaladvisor.com/home/topics/practice-management-information-center/health-disparities-in-rural-america-current-challenges-and-future-solutions/3/

[13] Sloat, S. (2022, June 1). Mental Health Care Should Be Available for All, Not a Luxury. Scientific American. http://scientificamerican.com/article/mental-health-care-should-be-available-for-all-not-a-luxury/

[14] Mack, B., Whetsell, H., & Graves, J. M. (2022, February). National Rural Health Association Policy Brief. NRHA. https://ruralhealth.us/NRHA/media/Emerge_NRHA/Advocacy/Policy%20documents/NRHA-Mental-health-in-rural-areas-policy-brief-2022.pdf