6-2022

Stigma and Rurality: How Community Type Influences Stigmatizing Views Toward Mental Illness

Kirsten P. Speights
The University of Southern Mississippi

Stigma and Rurality: How Community Type Influences Stigmatizing Views Toward Mental Illness

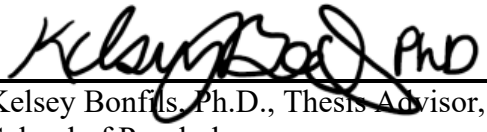
by

Kirsten P. Speights

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of Honors Requirements

May 2022

Approved by:



Kelsey Bonfils, Ph.D., Thesis Advisor,
School of Psychology

Sara Jordan, Ph.D., Director,
School of Psychology

Sabine Heinhorst, Ph.D., Dean
Honors College

ABSTRACT

Public stigma, or a set of negative attitudes and beliefs that can contribute to discrimination against those with mental illnesses, negatively affects behavioral health care and may be particularly prevalent in rural communities. The goal of this study was to examine public stigma across rural, suburban, and urban communities, as well as its association with mental health symptoms. An online survey was conducted using Amazon's Mechanical Turk (MTurk) service as well as the University of Southern Mississippi's SONA platform. Demographic data, community type, and mental health symptoms were collected via self-report inventories. When looking at the combined SONA (n= 298) and MTurk (n=126) sample (N=424), individuals who identified as belonging to an urban community reported increased perceptions of public stigma compared to those who identified as belonging to rural communities. Urban and suburban groups did not differ. Internalized stigma did not differ between community types. Schizotypal traits were significantly negatively correlated with perceptions of public stigma, while anxiety, depression, and schizotypal traits were positively correlated with internalized stigma. Findings regarding higher rates of public stigma in urban vs. rural communities were against hypotheses. This may be because mental illness is more visible in urban settings due to increased service centers and outreach efforts; higher visibility may lead to greater discussion, including expressions of public stigma. Future work is needed to better understand differential associations of public and internalized stigma with mental health symptoms.

Keywords: public stigma, self stigma; mental illness; rural; urban; suburban

DEDICATION

I would like to dedicate this thesis to my family and friends who have always been so supportive of this project, as they always celebrated every little goal milestone with me. I could not have achieved this without their unwavering support and belief in me, and I will be forever grateful for it.

ACKNOWLEDGMENTS

I would like to thank my advisor, Dr. Kelsey Bonfils, for guiding and supporting me throughout this learning experience of writing my thesis. Without her expertise, guidance, and motivation this project would not have been possible. Dr. Bonfils both encouraged and challenged me to put my best work forward in order to strive for excellence; that is something I will never forget.

I would also like to thank Cassi Springfield, a graduate student in the Social Cognition and Recovery in Schizophrenia (SCORS) Lab, for all of her time, support, and advice during this project.

Finally, I would like to thank the Drapeau Center for Undergraduate Research (DCUR). This project was funded by a DCUR Eagle Scholars Program for Undergraduate Research (SPUR) Award. Without this funding, which aided in survey recruitment, this project would have not been possible.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

USM	The University of Southern Mississippi
MTurk	Amazon's Mechanical Turk
M	Mean
MD	Mean Difference
SD	Standard Deviation
GAD-7	Generalized Anxiety Disorder- 7
PHQ-8	Patient Health Questionnaire- 8
SPQ-BR	Schizotypal Personality Questionnaire-Brief Revised
ISMI	Internalized Stigma of Mental Illness
AQ-27	Attribution Questionnaire Short Form
HIT	Human Intelligence Tasks

CHAPTER I: Introduction

Public stigma, or a set of negative attitudes and beliefs that cause the public to reject or discriminate against individuals with mental illnesses (Corrigan, 2004), negatively affects overall behavioral health care in terms of quality, resources offered, and willingness to seek treatment (e.g., Yanos et. al, 2020; Borenstein 2020). In rural communities, the rate of mental health concerns is similar to that seen in urban communities; however, rural communities often do not have the same access to mental health care and resources as urban communities (Crumb et al., 2019). In rural areas, poverty, geographic isolation, concerns about stigma, limited availability of providers, cultural differences, and other barriers often prevent engagement with mental health services in comparison to urban counterparts (e.g., Brenes et. al, 2015; McCall-Hosenfeld et. al, 2014; Pullmann et. al, 2010). While mental health research has not consistently yielded systematic differences in rates of severe mental disorders between urban and rural areas (Smalley et., al, 2010), the negative impact of untreated mental health problems is often exacerbated in rural communities where mental health issues may go untreated (Bischoff et. al, 2004).

Examining stigmatizing attitudes, in particular, across community types is important because of the unique characteristics that shape cultural norms that vary in urban and rural environments. In rural communities, this includes characteristics such as close-knit relationships, traditionally conservative values and beliefs, and decreased privacy (Crumb et. al, 2019). In contrast, urban communities provide greater anonymity due to larger population density, have a larger and more diverse system of values and beliefs, and exhibit variable and changing social climates (Leickly et. al, 2021). Suburban

communities are much harder to classify based on such characteristics as the United States Census Bureau does not have a clear systematic definition of what constitutes an area as being suburban. One key factor that most areas deemed suburban share, however, is that they are lower density areas that separate residential and commercial areas from one another (U.S. Census Bureau, 2020).

Public stigma can impact people with mental illnesses by making them feel as though they wear a mark of shame daily within the public eye (Corrigan, 2004). One group that is particularly at risk of experiencing and internalizing stigma is people diagnosed with severe mental illnesses (i.e., schizophrenia-spectrum, bipolar-spectrum, and other mental disorders accompanied by significant functional impairment). Public stigma can bring forth feelings of shame, guilt, and even self-hatred when the stereotypes stemming from public perceptions are internalized , particularly in those who suffer silently with their mental illness (Corrigan, 2004); this is called internalized stigma.. Internalized stigma often involves the incorporation of others' prejudices and stereotypes about people with mental illnesses into beliefs about oneself (Lucksted & Drapalski, 2015); these stereotypes that stem from public perceptions and the cues that the label of having a severe mental illness invites in, are things that individuals will avoid due to the negative connotations of being seen as violent or incapable (Corrigan, 2004).

Presence of public stigma is linked to negative outcomes for individuals with mental health concerns broadly, such as increased suicidality (Oexle et. al, 2018), depression, and substance abuse disorders (Smalley et. al, 2010). One study examining the intersection of stigma and suicidality revealed that stigma was significantly associated with suicidal ideation based on a path model (Oexle et. al, 2018). It has also been

demonstrated that perceptions of stigma are linked to psychological distress for people who hold concealable stigmatized identities, such as HIV and intellectual disabilities, as compared to those with visible stigmatized identities, such as race or gender (Ali et al., 2015). Although stigma can be present in any environment, the relationship between perceived stigma and rural areas may have more detrimental effects on psychological distress and sense of community for people with serious mental illnesses (Leickly et. al, 2021).

Perceptions of public stigma have also been negatively associated with several variables that are closely related to sense of community and, by proxy, sense of belonging (Leickly et. al, 2021). Sense of community is a multidimensional construct relating to one's experience in a community, comprising membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan & Chavis, 1986). The social connections fostered by sense of community, belonging, and integration that are often lost due to perceived stigma are important for the well-being of people dealing with serious mental illnesses, behavioral health concerns, and the general population as a whole (Kloos & Townley, 2011). Social isolation can exacerbate negative feelings or outcomes, as these impacts are often magnified by isolation, especially when faced with limited social support and the frustration of not knowing how to help family members or friends with a mental illness (Robinson et. al, 2012).

According to Corrigan, stigmatizing attitudes that are often present in these environments are considered to directly interfere with mental health care and motivate people to avoid the label of mental illness that often results when people are associated with mental health care (Corrigan, 2004). Mental illness itself may be inferred by the

public to stem from four specific cues: psychiatric symptoms, social-skills deficits, physical appearance, and labels. In fact, many of the symptoms of severe mental illnesses, especially, are clear signs of psychiatric illness perceived by the public that produce stigmatizing reactions (Corrigan, 2000).

Given the established impact of public and internalized stigma on mental health outcomes, more work is needed to understand the prevalence of stigma, especially as it varies in rural, suburban, and urban environments. To our knowledge, no study has yet examined if stigma differs across community types; however, previous studies have indicated the impact of stigma on rural communities and their behavioral healthcare options (e.g., Brenes et. al, 2015; McCall-Hosenfeld et. al, 2014; Pullmann et. al, 2010; Robinson et. al 2012). The primary hypothesis of this study was that perceptions of public stigma and internalized stigma would be higher in rural areas compared to urban areas; we expect that perceptions of public and internalized stigma in urban communities will be lower due to the anonymity those communities bring as well as the better access to mental health care. We further hypothesized that higher public and internalized stigma would be linked to higher mental health symptomatology. Lastly, mental health symptomatology across community types was explored.

CHAPTER II: Methods

Participants

Participants for this study came from two samples. Both samples required participants to be at least 18 years old. Participants for sample 1 were recruited through Amazon's Mechanical Turk (MTurk) service. MTurk is a forum where requesters, or those who develop assignments in MTurk, create self-contained tasks called Human Intelligence Tasks (HITs) for individuals looking to complete assignments in exchange for compensation. Workers complete HITs in exchange for a reward (reimbursement is the most common form of reward). Sample 2 was recruited through the University of Southern Mississippi's SONA platform. SONA participants complete online surveys for SONA credits, which can be used to earn bonus points in some courses at the instructor's discretion; this platform recruits undergraduate students. For this study, we recruited 627 participants between both platforms with 296 coming from the MTurk service and 331 coming from the SONA platform.

Measures

Generalized Anxiety Disorder-7

The Generalized Anxiety Disorder- 7 (GAD-7, Spitzer et. al, 2006) is a self-report measure of generalized anxiety disorder symptoms. This measure is frequently used for screening and was designed to be used quickly and effectively within a primary care setting (Spitzer et. al, 2006). Participants were asked to rate on a scale of 0 (not at all) to 3 (nearly every day) how frequently they experienced specific symptoms within the two weeks prior to measure administration. An example item reads, "not being able to stop or control worrying" (Spitzer et. al, 2006). Items are summed to reach a total score ranging

from 0 to 21. Higher scores indicate greater anxiety severity. The items demonstrated good reliability in our total sample (α= .89).

Patient Health Questionnaire-8

The Personal Health Questionnaire-8 (PHQ-8; Kroenke et. al, 2009) is a self-report measure established as a valid diagnostic and severity measure for depressive disorders. Participants were asked to rate on a scale of 0 (not at all) to 3 (nearly every day) how frequently they dealt with specific symptoms within a two-week period prior to the survey. An example item reads, "little interest or pleasure in doing things" (Kroenke et. al, 2009). The scores for all 8 items are summed to reach a total, with higher scores indicating greater severity of depressive symptoms. The items demonstrated good reliability in our total sample (α= .90).

Schizotypal Personality Questionnaire-Brief Revised

The Schizotypal Personality Questionnaire-Brief Revised (SPQ-BR; Cohen et. al, 2010) is used to assess schizotypal traits. The SPQ-BR is a 32-item self-report measure with a 5-point rating scale ranging from strongly disagree (1) to strongly agree (5) that produces subscales measuring three types of schizotypal traits: interpersonal, cognitive-perceptual, and disorganization. An example item reads, "Do you believe in telepathy (mind-reading)?" (Cohen et. al, 2010). The items demonstrated good reliability in our total sample (α= .97).

Internalized Stigma of Mental Illness

The Internalized Stigma of Mental Illness (ISMI) scale is a 29-item questionnaire measuring internalized stigmatizing attitudes on a 4-point scale with responses ranging from strongly disagree (1) to strongly agree (4). (Boyd et. al, 2013). An example item

reads, “I am embarrassed or ashamed that I have a mental illness” (Boyd et. al, 2013). The items are broken up into five subscales that are summed to reach a total score for the measure; these subscales include alienation, stereotype endorsement, perceived discrimination, social withdrawal, and stigma resistance. We used the total score for this study. The items demonstrated good reliability in our total sample (α= .92).

Attribution Questionnaire Short-Form

In order to examine public stigma, the Attribution Questionnaire Short-Form (AQ-27, Corrigan et. al, 2003) was used. The AQ-27 is divided into nine subscales with each subscale consisting of three questions. The nine subscales examine the dimensions of public stigma. These include blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion. Vignette items are presented on a 9-point Likert-type scale and give scenarios related to an individual named Harry. Harry is described to be a 30-year-old single man with schizophrenia who often hears voices and becomes frequently upset. Participants are given information through the vignette about who Harry lives with, where he works, and how many times he has been hospitalized due to his illness. Participants are then asked to rate each item on a scale of 1 (not at all) to 9 (very much). An example item reads, “I would feel unsafe with Harry” (Corrigan et. al, 2003). The subscale scores are calculated by summing the items corresponding to that subscale with score range from 3 to 27; subscale scores can also be summed to create a total score. The items demonstrated good reliability in our total sample (α= .86).

Community Type

Community type was assessed through self-report in the demographics portion of the survey. Participants reported the city and state they lived in, and they also reported

whether they believed they lived in a rural, suburban, or urban community based on their own perceptions. Participants in the SONA study were also asked these questions though most reported living within the same region due to it being an undergraduate sample gathered through the university.

Mental Health Treatment History

Participants were asked if they had ever received mental health treatment within the demographics portion of the survey in order to measure whether or not there was a difference in treatment-seeking rates between the different community types.

Chapman Infrequency Scale

Four items from the 10-item infrequency scale (Chapman et. al, 1976) were used to screen for inconsistent responding. These items have a clear right or wrong answer and have been used in prior work for a similar purpose (Luther et.al, 2018). These items (referred to as "attention check" items going forward) were embedded within the survey blocks containing the above measures rather than in their own block to ensure participants were carefully reading and selecting their answers throughout the online survey.

Procedure

All procedures were approved by the University of Southern Mississippi institutional review board (IRB) prior to survey launch. All participants completed the GAD-7, PHQ-8, SPQ-BR, ISMI, and AQ-27 via an online survey. The survey was designed to take 30 minutes or less to complete. MTurk participants were compensated for their participation with monetary payment through the MTurk service; each MTurk participant received $3.65 as compensation for participating within the survey.

Participants who provided high quality data (by correctly answering all attention check items) also earned a $0.75 bonus, for a total of up to $4.40/participant. The University of Southern Mississippi's SONA participants were compensated with 0.5 SONA credits for participating in the survey.

Statistical Analyses

One-way analysis of variance (ANOVA) was used to examine whether perceptions of public stigma varied based on community type. The subscales of the public stigma measure were also examined to determine if certain community types expressed perceptions of public stigma through certain dimensions compared to others. Pearson's R correlations were used to examine relationships between perceptions of public stigma (AQ-27), internalized stigma (ISMI), and mental health symptomatology (GAD-7, PHQ-8, SPQ-BR). Additional ANOVAs were run to examine whether symptomatology varied based on community type. Lastly, t-tests examined whether or not there were differences in perceptions of public and internalized stigma between the MTurk and SONA samples.

CHAPTER III: RESULTS

Demographics

In total there were 627 participants in this study including both Samples 1 and 2; after excluding participants who did not meet criteria for high quality data (i.e., at least three out of four attention check items correct and not in the lowest 10% in terms of time taken for the survey), there were 298 participants from the SONA platform and 126 participants from the MTurk service for a new total of 424 participants in the high quality sample. All subsequent results report on the high-quality sample only. Table 1 provides a detailed overview of the demographic data gathered during this study. Over half of the sample identified their race as White, and the majority of the sample identified their gender as female.

Table 1

Participant Demographic Information

	Mean/Frequency
Age	M=25.9 SD= 10.74
Gender	
Male	24.8% (n= 105)
Female	71.7% (n= 304)
Non-Binary	1.4% (n= 6)
Questioning or unsure	0.5% (n= 2)
Transgender	0.9% (n= 4)
Additional gender identity	0.2% (n=1)
Prefer not to disclose	0.7% (n=3)
Race	
American Indian or Alaskan Native	1.2% (n= 5)
Asian	5.2% (n= 22)

Black or African American	21.0% (n= 89)
White	68.9% (n= 292)
Other	2.8% (n= 12)
Hispanic/Latinx	4.5% (n= 19)
Currently Employed	59.0% (n= 250)
Highest Completed Education	
High School Diploma/GED	60.1% (n= 255)
Associate's Degree	17.5% (n= 74)
Bachelor's Degree	17.7% (n= 75)
Master's Degree	2.6% (n= 11)
Doctoral Degree	0.7% (n= 3)
Marital Status	
Never married	79.4% (n= 332)
Married	16.5% (n= 69)
Divorced	2.6% (n= 11)
Married, but separated	0.5% (n= 2)
Widowed	0.9% (n= 4)
Average Yearly Household Income	
Less than $20,000	21.0% (n= 89)
$20,000 to $34,999	13.9% (n= 59)
$35,000 to $49,999	15.1% (n= 64)
$50,000 to $74,999	22.6% (n= 96)
$75,000 to $99,999	9.9% (n= 42)
Over $100,000	15.6% (n= 66)
Housing	
Homeless – on streets or in shelter	0.5% (n= 2)
Structured congregate living (e.g., Group Home)	0.5% (n= 2)
Staying w/friends or family temporarily	3.5% (n= 15)
Living with family (not spouse)	17.7% (n= 75)
College dormitories	32.1% (n= 136)

Own apartment or house – with spouse, living as married, with friends	34.0% (n= 144)
Own apartment or house – alone	10.4% (n= 44)
Community Type	
Urban	34.9% (n= 148)
Suburban	45.8% (n= 194)
Rural	18.2% (n= 77)
Received mental health treatment	36.1% (n=153)

Note. M = Mean, SD = Standard Deviation

Individuals who identified as belonging to an urban community reported increased perceptions of public stigma compared to those who identified as belonging to rural communities (*MD* = .48, *p* =.002). Individuals who identified as belonging to a suburban community did not differ when compared to urban communities; however, they did show increased perceptions of public stigma in comparison to those in rural communities (*MD* = .40. *p* = .007). Perceptions of public stigma were significantly negatively correlated only with interpersonal and disorganized symptoms of schizotypy, while internalized stigma was significantly positively correlated with depression, anxiety, and all components of schizotypy (see Table 2).

Table 2

Correlations

Measures	PHQ	GAD	SPQ	SPQ Interpersonal	SPQ Cognitive-Perceptual	SPQ Disorganized
AQ	-.012	0.23	-.087	-.13**	-.20	-.12*
ISMI	.44**	.36**	.34**	.32**	.33**	.37*

*Note.***p<.01, *p<.05

Rural, suburban, and urban groups did not differ when comparing schizotypy ($F(2, 418) = .21$, $p = .81$), anxiety ($F(2, 418) = .28$, $p = .76$), or depression ($F(2,418) = .30$, $p = .71$). There were also no significant group differences in internalized stigma between community types ($F(2,418) = 1.67$, $p = .19$). AQ-27 subscale results can be seen in Table 3. The pattern of results across subscales was similar to that seen for the total score, such that for five out of nine subscales, those in urban communities endorsed higher rates than those in rural communities. Notably, for the dangerousness subscale only, participants from suburban, but not urban, communities endorsed higher rates of public stigma than those from rural communities. Suburban and urban rates of public stigma did not significantly differ across subscales.

Table 3

Group Comparison Results Across Stigma Subtypes

Stigma Scale	Rural M *(SD)*	Suburban M *(SD)*	Urban M *(SD)*	Test Statistic	Post-hoc results
ISMI	1.60 (0.46)	1.70 (0.57)	1.70 (0.55)	$F(2,418) = 1.67$ $p = .19$	N/A
AQ Total	3.93 (0.89)	4.34 (0.97)	4.41 (1.04)	$F(2, 418)=6.40$ $p=.002$	Urban > Rural, Suburban > Rural
AQ Blame Subscale	6.22 (3.16)	6.96 (4.16)	7.99 (4.83)	$F(2,418)= 4.87$ $p = .008$	Urban > Rural
AQ Anger Subscale	5.61 (3.33)	7.66 (4.42)	8.14 (5.16)	$F(2,418)= 8.34$ $p <.001$	Urban > Rural, Suburban > Rural
AQ Pity Subscale	20.18 (5.50)	20.37 (4.76)	19.60 (4.60)	$F(2,418)= 0.99$	N/A

				p = .37	
AQ Help Subscale	19.49 (6.30)	19.22 (5.70)	19.68 (5.48)	F(2,418)= 0.27 p = 0.76	N/A
AQ Dangerousness Subscale	9.54 (5.58)	11.53 (5.90)	11.31 (5.58)	F(2,418)= 3.50 p = .03	Suburban > Rural
AQ Fear Subscale	8.56 (5.98)	10.53 (6.22)	10.61 (6.08)	F(2,418)= 3.40 p = .03	Urban > Rural, Suburban > Rural
AQ Avoidance Subscale	14.25 (7.07)	14.85 (6.00)	14.78 (6.39)	F(2,418)= 0.26 p = 0.77	N/A
AQ Segregation Subscale	7.71 (4.83)	9.92 (5.71)	10.41 (6.21)	F(2,418)= 5.88 p = .003	Urban > Rural, Suburban > Rural
AQ Coercion Subscale	14.20 (4.99)	16.06 (4.84)	16.20 (5.04)	F(2,418)= 4.75 p = .009	Urban > Rural, Suburban > Rural

Note. M= Mean, SD= Standard Deviation, ISMI= Internalized Stigma of Mental Illness, AQ= Attribution Questionnaire (Short Form)

When comparing the SONA sample to the MTurk sample using t-tests, the results indicated that there was a significant difference between the groups based on perceptions of public stigma ($t(422) = 3.764$, $p < .001$). Notably, we aimed to objectively classify participants' community types based on self-reported city and state of participants. This was particularly relevant for the MTurk sample, as the SONA sample exclusively included undergraduates enrolled at USM. Unfortunately, in the MTurk sample, participants frequently refused to report on their cities, with some writing instead that they felt this was too personal for them to share. As a result, we were only able to

objectively classify community type for 18.2% percent of our MTurk sample; given low quality data in this sample overall, we elected to forego use of objective classifications due to incomplete data.

CHAPTER IV: DISCUSSION

The primary hypothesis of this study was that perceptions of public and internalized stigma would be higher in rural areas and associated with internalized stigma higher mental health symptoms, and that perceptions of public and internalized stigma in urban communities would be lower due to the anonymity those communities bring as well as the better access to mental health care. The results of this study did not align with the original hypotheses; however, we did see associations with mental health symptoms, particularly with internalized stigma.

Against hypotheses, participants from urban communities reported significantly higher perceptions of public stigma in comparison to rural settings. This unexpected finding could be explained by the idea that mental illness is more visible in urban settings. Because of increased exposure to homeless populations dealing with mental illness or through increased numbers of mental healthcare facilities in urban locales, people may be more likely to vocalize opinions about mental health due to higher visibility. This in turn could also lead to more vocalized expressions of public stigma. Studies have shown that residents of sparsely populated rural locales are less likely than urban residents to encounter people with serious mental illnesses (Leickly et. al, 2021), which could explain why, in our data, people from urban communities with more densely populated areas saw higher rates of public stigma in comparison to those from rural communities. This study did not determine that one's community type caused perceptions of stigma to be higher; instead, this study examined a correlational relationship between

stigma and community type. As such, we are unable to comment on whether there is a causal relationship between community type and public or internalized stigma.

Based on the results of this study, participants also did not differ significantly in mental health symptomatology based on their community type; however, mental health symptomatology was significantly correlated with perceptions of both public and internalized stigma. Stigma and mental health symptoms have a relationship that has been demonstrated through various research endeavors; however, there has not been any evidence that increased mental health symptoms causes higher rates of stigma (Borenstein, 2020). This could be due to the fact that symptomatology is impacted by a variety of factors (social, environmental, biological, etc.) that may not systematically vary with community type. Participants also did not differ in internalized stigma based on their community type. Internalized stigma is typically associated with reduced self-esteem, empowerment, hope, and sense of recovery, as well as exacerbated psychiatric symptoms and a greater reluctance to engage in treatment and other supports (Livingston & Boyd, 2010). The idea that internalized stigma did not differ based on community type, despite our finding that perceptions of public stigma were higher in urban environments, suggests that people with mental illnesses in urban environments may not internalize their perceptions of public stigma to a greater degree than those in rural environments, despite being exposed to higher rates of public stigma. Further work should examine the interaction of public and internalized stigma across community types to enhance our understanding of how these two variables intersect for those with mental illnesses.

Limitations

There are several important limitations to consider when interpreting results from this study. First, mental health symptomatology was assessed via self-reports rather than clinical interviews. Future research in this area should use a combination of self-reports and clinical interviews to provide a more nuanced picture of mental health symptomatology. Additional data could also be collected to characterize participants who have and have not received mental health treatment, as over a third of our sample reported having received treatment, but information was not collected regarding the context of that treatment. Second, the majority of our sample fell into a narrow demographic group (primarily White and female), resulting in less diversity, which could have impacted the data given that individuals of different ethnic backgrounds and genders face stigmatizing attitudes potentially at different rates. Additionally, community type information was gathered through self-report, and we were unable to objectively verify participant reports of community type due to issues with data quality and missing data from the MTurk sample. Further, there was an imbalance in the sample size for community type. A large portion of the MTurk sample identified as coming from an urban location, and when the samples were combined, most participants reported belonging to an urban (n=148) or suburban (n= 194) community. Most of the SONA sample also lived within the same region due to it being a platform that is available through the university; however, the participants' hometowns may have shaped their own attitudes rather than their current location. Future research in this area should try to recruit equal sample sizes for each community type and ask about hometown locations in addition to current locations.

Conclusion and Future Research

In conclusion, perceptions of public stigma differ based on the community type an individual identifies as belonging to, but in the opposite direction to our hypotheses. Our findings suggest that people living in urban and suburban communities perceive greater public stigma than those in rural communities. Future studies may continue to focus on this topic by breaking down urban communities into two subcategories: urbanized areas of 50,000 or more people and urban clusters of at least 2,500 and less than 50,000 people (U.S. Census Bureau, 2020). Future studies could also focus on ethnic groups that may have been underrepresented in this study to determine if stigmatizing attitudes are present in different rates based on participants' demographic group. Research in clinical samples should also be undertaken as those with diagnosed mental illnesses may have different perceptions of stigma across community types, and as this group is the most impacted by stigmatizing views, it should be investigated further.

APPENDIX A: IRB APPROVAL LETTER

Office of
Research Integrity

118 COLLEGE DRIVE #5116 • HATTIESBURG, MS | 601.266.6756 | WWW.USM.EDU/ORI

NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER:	21-101
PROJECT TITLE:	Stigma and rurality: How community type influences stigmatizing views toward mental illness
SCHOOL/PROGRAM:	Psychology
RESEARCHERS:	PI: Kirsten Speights Investigators: Speights, Kirsten-Bonfils, Kelsey-McCoy, Markessa-
IRB COMMITTEE ACTION:	Approved
CATEGORY:	Expedited Category
PERIOD OF APPROVAL:	12-Oct-2021 to 11-Oct-2022

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

REFERENCES

Ali, A., King, M., Strydom, A., & Hassiotis, A. (2015). Self-reported stigma and symptoms of anxiety and depression in people with intellectual disabilities: Findings from a cross sectional study in England. *Journal of Affective Disorders*. 187, 224–231. https://doi.org/hwjj.

Bischoff, R., Hollist, C., Smith, C., & Flack, P. (2004). Addressing the mental health needs of the rural underserved: Findings from a multiple case study of a behavioral telehealth project. *Contemporary Family Therapy: An International Journal*, 26, 179–198. https://doi.org/cnm55k.

Borenstein, J. (2020). Stigma, Prejudice and Discrimination Against People with Mental Illness. *Stigma and Discrimination*. Retrieved March 7, 2022, from https://www.psychiatry.org

Boyd J. E., Adler E. P, Otilingam P. G., Peters T. (2013). Internalized Stigma of Mental Illness (ISMI) scale: a multinational review. *Comprehensive Psychiatry*. 2014 Jan; *55*(1):221-231. https://doi.org/gf2v38.

Brenes, G. A., Danhauer, S. C., Lyles, M. F., Hogan, P. E., & Miller, M. E. (2015). Barriers to mental health treatment in rural older adults. *The American Journal of Geriatric Psychiatry*, *23*(11), 1172–1178. https://doi.org/f723zn.

Cohen A.S., Matthews R.A., Najolia G.M., Brown L.A. (2010). Toward a more psychometrically sound brief measure of schizotypal traits: Introducing the SPQ-brief revised. *Personal Disorder*s. 2010; *24*(4):516–537. https://doi.org/dkxkb2.

Corrigan, P. W. (2000). Mental health stigma as social attribution: Implications for research methods and attitude change. *Clinical Psychology: Science and Practice*, *7*(1), 48. https://doi.org/b6wcpf.

Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist*, *59*(7), 614–625. https://doi.org/cpxspn.

Crumb, L., Mingo, T. M., & Crowe, A. (2019). "Get over it and move on": The impact of mental illness stigma in rural, low-income United States populations. *Mental Health and Prevention*, *13*, 143–148. https://doi.org/gkzmfq.

Kloos, B., & Townley, G. (2011). Investigating the relationship between neighborhood experiences and psychiatric distress for individuals with serious mental illness. *Administration and Policy in Mental Health*, *38*(2), 105–116. https://doi.org/bmnpk6.

Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders*, *114*(1-3), 163–173. https://doi.org/d4rhch.

Leickly, E., Townley, G., Dover, T. L., Brusilovskiy, E., & Salzer, M. S. (2021). Exploring urbanicity and its relationship with stigma and well-being outcomes for people with serious mental illnesses. *American Journal of Orthopsychiatry*, *91*(2), 208–216. https://doi.org/hwjq.

Livingston, J D. & Boyd, J E. (2010). Correlates and consequences of internalized stigma for people with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*, *71*, 2150 –2061.

Lucksted, A., & Drapalski, A. L. (2015). Self-stigma regarding mental illness: Definition, impact, and relationship to societal stigma. *Psychiatric Rehabilitation Journal*, *38*(2), 99–102. https://doi.org/gf2v3r

Luther, L., Coffin, G., Firmin, R. L., Bonfils, K. A., Minor, K. S., & Salyers, M. P. (2018). A test of the cognitive model of negative symptoms: Associations between defeatist performance beliefs, self-efficacy beliefs, and negative symptoms in a non-clinical sample. *Psychiatry Research*, *269*, 278-285. https://doi.org/gfp3w5.

McCall-Hosenfeld, J. S., Mukherjee, S., & Lehman, E. B. (2014). The prevalence and correlates of lifetime psychiatric disorders and trauma exposures in urban and rural settings: Results from the national comorbidity survey replication (NCS-R). *PloS one*, *9*(11). https://doi.org/hwjs.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, *14*(1), 6–23. https://doi.org/fvxz24.

Oexle, N., Waldmann, T., Staiger, T., Xu, Z., & Rüsch, N. (2018). Mental illness stigma and suicidality: The role of public and individual stigma. *Epidemiology and Psychiatric Sciences*, *27*(2), 169–175. https://doi.org/gc76dq.

Pullmann, M. D., VanHooser, S., Hoffman, C., & Heflinger, C. A. (2010). Barriers

to and supports of family participation in a rural system of care for children with serious emotional problems. *Community Mental Health Journal*, *46*, 211–220. https://doi.org/fs6jmm.

Robinson, W. D., Springer, P. R., Bischoff, R., Geske, J., Backer, E., Olson, M., Jarzynka, K., & Swinton, J. (2012). Rural experiences with mental illness: Through the eyes of patients and their families. *Families, Systems, & Health*, *30*(4), 308–321. https://doi.org/f4jj66.

Smalley, K. B., Yancey, C. T., Warren, J. C., Naufel, K., Ryan, R., & Pugh, J. L. (2010). Rural mental health and psychological treatment: A review for practitioners. *Journal of Clinical Psychology*, *66*(5), 479–489. https://doi.org/d6v6dv.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine*, *166*(10), 1092–1097. https://doi.org/d7z8rz.

U.S. Census Bureau. (2020). *Story Map Series*. Retrieved February 25, 2022, from https://mtgisportal.geo.census.gov/arcgis/apps/MapSeries/index.html?appid=49cd4bc9c8eb444ab51218c1d5001ef6#:~:text=The%20Census%20Bureau%20defines%20rural,tied%20to%20the%20urban%20definition.

Yanos, P. T., DeLuca, J. S., Roe, D., & Lysaker, P. H. (2020). The impact of illness identity on recovery from severe mental illness: A review of the evidence. *Psychiatry Research*, *288,* 112950 https://doi.org/hdwr.