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Brent M. McCreary; Robin Danek PhD MPH; Ellen Ireland PhD MPH; Eric Reyes BSc MStat PhD DOI: https://doi.org/10.24926/jrmc.v7i3.5938
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Self-Stigma vs. Perceived Public Stigma Toward Mental Illness in Rural Adults

Brent, M. McCreary; Robin Danek PhD MPH; Ellen Ireland PhD MPH; Eric Reyes BSc MStat PhD

Abstract

Introduction:
Mental illness is a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior.[1] Stigma toward mental health comes in two primary forms: Self-stigma and perceived public stigma[2].

Purpose:
The objective of this study is to quantify the amount of stigma toward mental illness in rural adults and analyze differences in stigma across demographic groups.

Methods:
Adults were offered a 14-item questionnaire at five different sites from January 2023 to April 2023. Rural distinctions were made based on participants' reported county of residence following the Indiana Office of Community and Rural Affairs (OCRA) definition of rurality. Demographic information such as age, gender, marital status, total household income, and highest level of education were also obtained.

Results:
Rural adults experience mild amounts of self-stigma (14.52 +/- 5.0) and moderate amounts of perceived public stigma (18.4 +/- 4.3). Adults aged 46-65 experience more significant levels of perceived public stigma when compared to those of younger participants. An inverse relationship exists between the highest level of education and self-stigma towards mental illness. Seventy two percent of respondents agreed or strongly agreed with the statement, “In general, others believe that having a mental illness is a sign of personal weakness or inadequacy.”

Conclusions:
This study demonstrates that perceived public stigma toward mental illness presents a significant barrier to care for mental illness. Adults aged 46-65 are especially vulnerable to the perceived public stigma toward mental illness. To provide the largest benefit to rural populations, anti-stigma campaigns should focus on perceived public stigma among adults aged 46-65.

Introduction:

Mental illness is a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior.[1] Of all mental health disorders, the most common are anxiety and mood disorders, such as depression, with lifetime prevalence rates of 16% and 12%, respectively[1]. In 2020, the Substance Abuse and Mental Health Services Administration estimated that nearly 52.9 million adult Americans have a mental illness. Of these 52.9 million adults with mental illness, approximately 7.6 million reside in nonmetropolitan or rural areas, or approximately 1 in 6 nonmetropolitan residents have a mental illness.[3] Persons living in nonmetropolitan areas face many barriers to receiving mental health treatment. These barriers include financial difficulties, access to care, increased travel distances, and increased stigma.[4] Perhaps the most challenging obstacle to overcome is the stigma toward mental illness. Stigma creates many barriers to care for those struggling with mental illness. Stigmatization can result in patients not seeking care, not completing the recommended treatment plan, and worsening symptoms of mental illness[3].

Brent, M. McCreary; Indiana University School of Medicine Terre Haute Regional Medical Campus
Robin Danek PhD MPH; Indiana University School of Medicine Terre Haute Regional Medical Campus
Ellen Ireland PhD MPH; Indiana University School of Medicine Terre Haute Regional Medical Campus
Eric Reyes BSc MStat PhD; Rose-Hulman Institute of Technology

Stigma toward mental health comes in two primary forms: Self-stigma and perceived public stigmatization.[2] Self-stigmatization is when the individual feels less adequate or less confident if they were to have a mental illness.[2] Previous studies have demonstrated that self-stigma negatively impacts one's willingness to seek care for mental illness.[6,7] Perceived stigmatization is how a patient feels their peers would view them if they were to have a mental illness.[2,6] Perceived public stigma could lead patients to believe they will receive discrimination from others if they were to be diagnosed with a mental illness.[2, 8] Previous studies have demonstrated that perceived public stigma is negatively associated with individuals' attitudes toward seeking healthcare for mental illness.[2, 8, 9, 10]

Both forms of stigma are prevalent in communities across the United States; a 2015 observational study demonstrated that rural residents experienced greater self-stigma toward mental health than their urban counterparts.[11] Researchers found when controlling for education, work, and income, significant differences in perceived public stigma emerged between rural and urban adults. Prior research has also found that females living in rural areas demonstrated more significant levels of stigma than their urban counterparts in seven different measures of stigma.[12] Stigma toward mental health is prevalent among rural adults, and creating ways to reduce stigma is critical to care for rural communities.

Studies have shown that education and communication interventions can significantly reduce the stigma toward mental illness.[13, 14, 15, 16] The 2016 global mental health review of policy and systems on reducing mental health stigma found that anti-stigmatization campaigns perform best when tailored to specific communities that target behavioral outcomes.[13, 14, 17] Perceived public stigma can be addressed through communication strategies that employ sympathetic stories to normalize the experience and struggle of individuals with mental illness. [16, 17] Studies have demonstrated that this form of messaging reduces public stigma toward mental health and can help promote overall awareness of mental illness.[13, 17] It has been discovered that anti-stigma campaigns not targeting specific patient demographics or forms of stigma are much less effective than population-directed campaigns.[13, 17]

There have been relatively few studies examining stigma toward mental illness in adults living in rural areas. With the importance of anti-stigma campaigns targeting specific populations and stigma types, it is imperative to understand which form of stigma creates the most significant barrier for different patient populations within the community. Understanding what groups struggle with increased stigma will allow future educational and communication interventions to be tailored to specific populations and better reduce stigma towards mental illness.

The objective of this study is to quantify the amount of stigma toward mental illness in rural adults. Likewise, we compare the levels of self-stigma and perceived public stigma towards mental illness. We examine demographic groups within rural populations that struggle with the most stigma toward mental illness. The population studied were rural adults aged 18+ visiting their primary care clinic in southern Indiana.

Methods:

This research study was an observational cross-sectional study. IRB (Protocol number 17855) approval was obtained through Indiana University's Institutional Review Board. A set of questions from the Self-stigma and Perceived Public Stigma measures created in 2014 were utilized to develop the survey used in the study.[5] Seven questions measuring self-stigma and seven measuring perceived public stigma were selected to construct a 14-question survey questionnaire to assess the objectives above. The 14 questions demonstrated internal consistency and reliability when studied across three-time points; Cronbach's alpha ranged from .85–.87 for the Self-Stigma subscale and from .71–.85 for the Perceived Public Stigma subscale.[5] The questions chosen for the survey were then edited from their original form for simplicity and ease of understanding for people of varying levels of education and literacy. The target population for completion of the survey included rural adults 18 and over, regardless of previous personal or family history of mental illness.

We used the definition of rurality from the U.S. Dept. of Health & Human Services Office of Management and Budget (OMB) to delineate rural from urban respondents. The OMB defines a metropolitan county as those whose largest urban center is greater than 50,000[18]. The authors included all counties that did not meet the criterion for metropolitan as rural. This is an imperfect definition; however, this is the most common criterion used by the Indiana Office of Community and Rural Affairs (OCRA). The authors acknowledge Indiana is a diverse landscape, and many rural counties have metropolitan areas, and metropolitan counties have rural regions within them.

Recruitment occurred through advertisement signage directing participants to a printed survey. No incentives were offered, and both risk and benefit to participants were minimal. Five primary care clinic locations were contacted via email and invited to participate in the study. The clinics are all located in rural counties in southern Indiana and provide care to families from surrounding communities. Before initiating the study, BM prepared a survey distribution table with advertisements in each clinic's waiting room. The survey tables consisted of a sign asking for their help in completing a research survey, one hundred surveys with instructions, and a metal collection lock box for completed surveys to be returned to. Implementation and survey distribution began January 20, 2023, and data collection was completed on April 14, 2023.

Statistical analysis:

The data were analyzed utilizing IBM SPSS version 29.0.1.0 (171) statistical software. This was a survey-based study asking participants to answer whether they agree or disagree with various statements. Each response was assigned a numerical value (0 = Not applicable, 1 = strongly disagree and 4 = strongly agree) and then totaled across all self-stigma (or public stigma) questions to create an overall score. Demographic characteristics were summarized as counts and percentages. According to the Indiana census from 2020 the area sampled for this research is approximately 96.3% non-Hispanic and 92.2% white.[20] The age distribution for the region sampled is approximately 18-24 (8.4%), 25-44 (24.8%), 45-64 (25.9%), and 65+ (18.6%).[20] The median personal annual income is $55,000.[20] The authors are confident the survey sample is reasonably representative of the population at large within the region surveyed. The distribution of responses for each stigma question is summarized through counts and percentages. The mean self-stigma and public-stigma scores are also reported. Comparisons of the stigma scores were performed using Mann-Whitney U-test, Krsukal Wallis test, or a bootstrapped paired t-test, as appropriate.

Results:

A total of 190 surveys were collected; nine were removed from the study due to incomplete or missing information. An additional 21 surveys were removed due to not meeting the rurality inclusion criteria as defined above. In total, 160 completed questionnaires were included in the study.

Descriptive statistics of survey respondents are displayed in Table 1. The majority of participants were female (71.9%) and between the ages of 46-64 (31.9%). Nearly all participants were white (98.8%). The highest level of education of the participants was evenly distributed, with the highest percentage being high school/GED (29.4%). The majority of participants lived in a household with a total income of 40,000 - 89,000 (40.6%). According to most recent census data for this region approximately 96.3% are non-Hispanic and 92.2% are white.[20] The age distribution for the region sampled is approximately 18-24 (8.4%), 25-44 (24.8%), 45-64 (25.9%), and 65+ (18.6%).[20] The median personal annual income is $55,000.[20] The survey revealed that over half of the participants have been diagnosed with a mental illness (53.8%).

Tables 2 and 3 illustrate the frequency of answers to all 14 survey questions. Nearly 52% of respondents answered agree or strongly agree to the statement “My self-confidence would be threatened if I had a mental illness”. This statement received the largest percentage of responses indicating stigma in the self-stigma section of the questionnaire. Approximately 71% of respondents answered agree or strongly agree with the statement “Having a mental illness carries a social stigma or a strong disapproval.” Seventy seven percent of respondents answered agree or strongly agree to the statement “In general, others think less of people with a mental illness”. Lastly, nearly 73% of respondents answered agree or

strongly agree to the statement "In general, others believe that having a mental illness is a sign of personal weakness or inadequacy." These three findings indicate rural adults perceive increased stigma from the public toward mental illness.

Figures 1 and 2 summarize the total Self-Stigma and total Perceived Public stigma scores. The questionnaire used in this study can be broken down into categories of experienced stigma based on the total score for each section. The categories are as follows: 0-7 No stigma, 8-14 mild stigma, 15-21 moderate stigma, and 22-28 Significant stigma.[5] Self-stigma total scores followed a bimodal distribution with a mean of 14.52 and a standard deviation of 5.0, indicating mild amounts of stigma. Perceived Public stigma followed a bell-shaped distribution with a mean of 18.4 and a standard deviation of 4.3, indicating moderate amounts of stigma. On average, the total Public-Stigma score was higher than the total Self-Stigma score ($p = 0.001$ based on 1000 bootstrap replicate samples).

There were no significant differences between males and females for Self-stigma (Graph 3, Mann-Whitney U-test p-value of 0.678) or perceived public stigma (Graph 4, Mann-Whitney U-test p-value of 0.689).

There were no discernible differences between age groups for total perceived self-stigma scores (Graph 5, Kruskal-Wallis p-value of 0.178). with an p-value of 0.178. In contrast, a significant difference was found between age groups for total perceived public-stigma scores (Graph 6, Kruskal-Wallis p-value of 0.003). Participants in the 46-65 age group have increased perceived public stigma compared to the 18-25 age group. We also found a significant difference in the total self-stigma score across education levels among participants (Graph 7, Kruskal-Wallis p-value of 0.007). The skilled trade group participants had higher reported self-stigma than those in the professional/graduate group and Bachelor/associates group.

Discussion:

The purpose of this study was to quantify the stigma toward mental illness and compare self-stigma against perceived public stigma in rural adults. Survey results demonstrated that rural adults experience mild self-stigma and moderate amounts of perceived public stigma. The difference in the average experienced self and perceived public stigma was clinically and statistically significant, with perceived public-stigma higher than self-stigma. This is an important finding, as very few studies have examined differences in self and perceived public stigma among rural adults. Moderate amounts of stigma have been shown to have a negative impact on one's willingness to seek help, complete treatment plans, and even worsen symptoms of mental illness.[2, 8] Therefore, this study demonstrates the perceived public stigma experienced by rural adults in this sample is significant enough to create barriers to mental health treatment and potentially worsen outcomes.

This study also aimed to determine what demographic groups experience the most stigma when compared to all rural adults. There were no significant gender differences in self or perceived public stigma. There were no significant age group differences in self-stigma. There were, however, age group differences in perceived public stigma. It was determined adults aged 46-65 experience more significant levels of perceived public stigma when compared to those of younger generations, specifically adults in the 18-25 and 26-35 age groups. These results may be influenced by a disproportionate number of adults in the 46-65-year-old completing the survey. However, these results indicate this age group experiences increased levels of perceived public stigma compared to adults within other age groups. Prior research has indicated anti-stigma campaigns are most effective with directed toward specific patient groups. Therefore, educational campaigns to reduce perceived public stigma toward mental illness should emphasize appealing to adults within the 46 to 65-year-old age group.

We found no differences in perceived public stigma between the highest completed education levels. However, some significant differences were discovered when comparing self-stigma between levels of highest completed education. Adults who completed a skilled trade certification experience greater self-stigma when compared to their peers who completed college-level education. This finding indicates the level and type of higher education completed by adults has an impact on self-stigma

toward mental illness. The inverse relationship between education and stigma toward mental illness has been well-defined in previous systematic reviews.[19] Previous research has shown that adults who completed a skilled trade were the only group with moderate levels of self-stigma. All other groups analyzed fell into the mild range of self-stigma. Adults who have completed a skilled trade educational program should be the focus when designing campaigns to reduce self-stigma toward mental illness.

We noticed several questions within the survey had a large majority of participants responding in a manner that indicate increased levels of stigma. The questions and their answers are displayed in Tables 2 and 3. Perhaps the most alarming survey result was that 72% of respondents agreed or strongly agreed with the statement, "In general, others believe that having a mental illness is a sign of personal weakness or inadequacy." Seventy two percent of rural adults in this study assume people within their community believe that having a mental illness is a sign of weakness or inadequacy. This question had the highest frequency of stigma-indicating responses in the entire survey. Interestingly, the question "I feel that having a mental illness would be a personal shortcoming for me" only received 40% of answers to indicate stigma. So, rural adults in our study do not feel that having a mental illness would make them less adequate but believe their community members would view them in this way. This dissonance indicates that perceived public stigma toward mental illness is more significant than self-stigma. Combating the belief that community members view having a mental illness makes one a weaker person should be an emphasis in anti-stigma campaigns.

Limitations:

There are several limitations to this study. A total of 160 surveys met the inclusion criteria for this study. While large enough to provide statistical analysis with reasonable validity, applying the conclusions to all rural adults should not be done. This study was completed in southern Indiana and may not represent rural adults from other regions of the state. An overwhelming majority of participants were white females (71%) and therefore gender differences should be considered with the reservation that such analysis could be partially skewed. Lastly, the authors included all counties that did not meet the criterion for metropolitan as rural. This is an imperfect definition; however, it is the most common criterion used by the Indiana Office of Community and Rural Affairs (OCRA).

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Table 1: Summary of participant demographics.

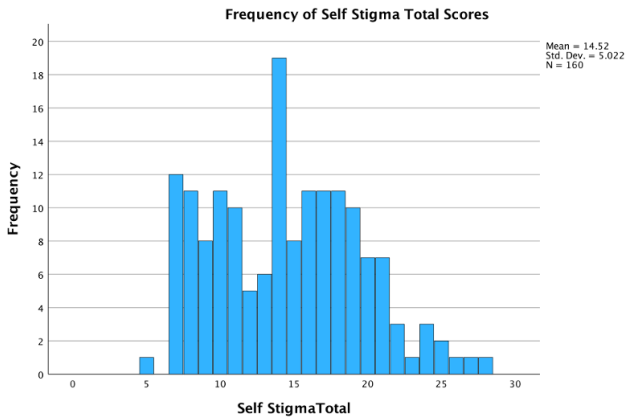
	Value
Participants (n = 160)	n (%)
Sex	
Female	115 (71.9%)
Male	45 (28.1%)
Transgender	0 (0.0%)
Non-Binary	0 (0.0%)
Age	
18-25	12 (17.5%)
26-35	31 (19.4%)
36-45	34 (21.3%)
46-65	51 (31.9%)
65+	32 (20.0%)
Race	
White	158 (98.8%)
African America	1 (0.6%)
Native American	1 (0.6%)
Highest Level of Completed Education	
Graduate/Professional	24 (15.0%)
Associates/Bachelors	38 (23.8%)
Skilled Trade	19 (11.9%)
Some College	32 (20.0%)
GED/Highschool	47 (29.4%)
Marital Status	
Married	86 (53.8%)
Single	28 (18.1%)
Widowed	16 (10.0%)
Divorced/Separated	14 (8.8%)
Living with Partner	15 (9.4%)
Total Household Income	
>200,000	6 (3.8%)
90,000 - 200,000	20 (12.5%)
40,000 - 89,000	65 (40.6%)
25,000 - 39,000	29 (18.1%)
< 25,000	40 (25.0%)
Diagnosed with a Mental Illness	
Yes	86 (53.8%)
No	74 (46.3%)

Table 2: Summary of Responses to Self-Stigma Survey

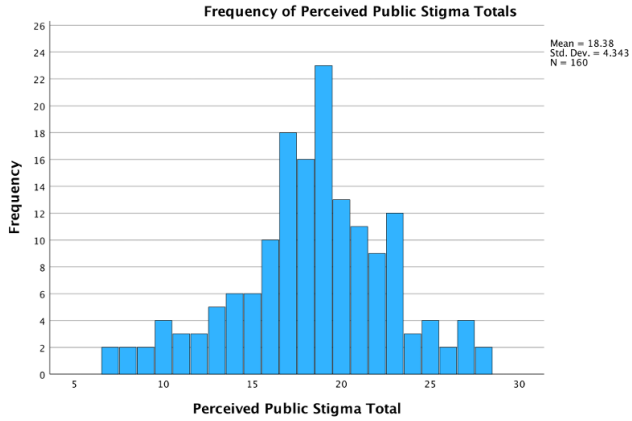
I would feel ashamed of myself for having a mental illness.	
Not Applicable	1.9%
Strongly Disagree	33.8%
Disagree	36.9%
Agree	20.0%
Strongly Agree	7.5%
I would feel like a lesser person compared to others who don't have a mental illness	
Not Applicable	1.3%
Strongly Disagree	31.3%
Disagree	31.3%
Agree	27.5%
Strong Agree	8.8%
I feel that having a mental illness would be a personal shortcoming for me.	
Not Applicable	1.9%
Strongly Disagree	29.4%
Disagree	28.7%
Agree	29.4%
Strongly Agree	10.6%
If I had a mental illness, I could not live a good, rewarding life.	
Not Applicable	0.6%
Strongly Disagree	40.6%
Disagree	43.1%
Agree	11.9%
Strongly Agree	3.8%
I would be disappointed in myself for having a mental illness	
Not Applicable	1.3%
Strongly Disagree	38.8%
Disagree	38.1%
Agree	18.8%
Strongly Agree	3.1%
I would feel okay about myself for having a mental illness	
Not Applicable	0.6%
Strongly Disagree	6.3%
Disagree	24.4%
Agree	50.6
Strongly Agree	18.1%
My self-confidence would be threatened if I had a mental illness	
Not Applicable	1.9%
Strongly Disagree	17.5%
Disagree	28.1%
Agree	39.4%
Strongly Agree	13.1

Table 3: Summary of Responses to Perceived Public Stigma Survey

Having a mental illness carries a social stigma or a strong feeling of disapproval.	
Not Applicable	0.0%
Strongly Disagree	8.8%
Disagree	18.1%
Agree	47.5%
Strongly Agree	25.6%
It is best not to tell others if you have a mental illness	
Not Applicable	0.0%
Strongly Disagree	19.4%
Disagree	34.4%
Agree	35.0%
Strong Agree	11.3%
In general, others think less of people with mental illness.	
Not Applicable	0.0%
Strongly Disagree	8.8%
Disagree	14.4%
Agree	59.4%
Strongly Agree	17.5%
In general, others believe that having a mental illness is a sign of personal weakness or inadequacy.	
Not Applicable	0.0%
Strongly Disagree	11.9%
Disagree	15.6%
Agree	56.3%
Strongly Agree	16.3%
In general, others view mental illness as rare or unusual.	
Not Applicable	0.6%
Strongly Disagree	13.8%
Disagree	39.4%
Agree	36.9%
Strongly Agree	9.4%
Most employers will hire a person who has had a mental illness if he or she is qualified for the job.	
Not Applicable	0.6%
Strongly Disagree	10.6%
Disagree	33.8%
Agree	43.1%
Strongly Agree	11.9%
Most people would treat a person with a mental illness just like anyone else.	
Not Applicable	0.6%
Strongly Disagree	13.1%
Disagree	46.9%
Agree	31.3%
Strongly Agree	8.1%



Graph #1 Distribution of Self-Stigma Total Scores (Mean = 14.52; Standard Deviation = 5.0)

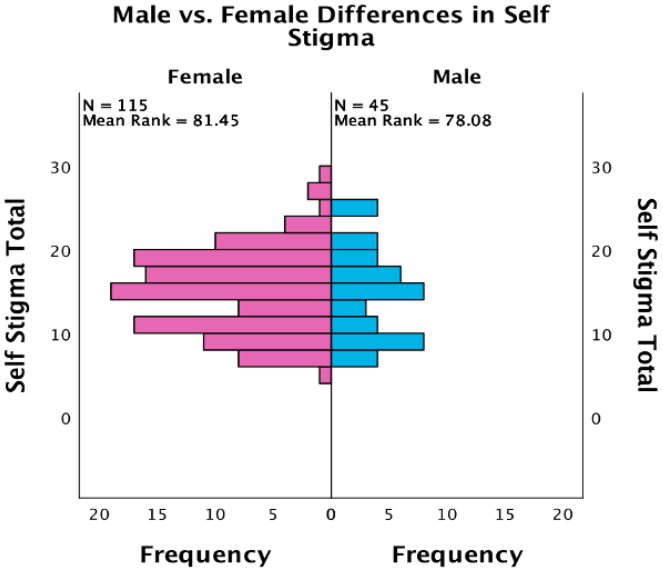


Graph #2 Distribution of Perceived Public Stigma Total Scores (Mean = 18.4; Standard Deviation = 4.3)

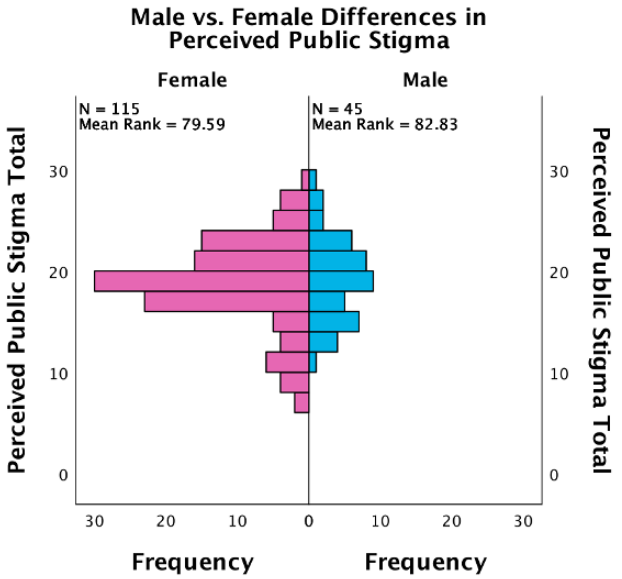
Table #4: Comparison of total Self-Stigma and Public-Stigma scores at the individual level.

Bootstrap for Paired t-Test for Total Self Stigma – Total Perceived Public Stigma of Adults	
Mean	-3.385
Bias	-0.002
Standard error	0.376
2-tailed Sig	<0.001
95% CI	-4.638 to -3.138

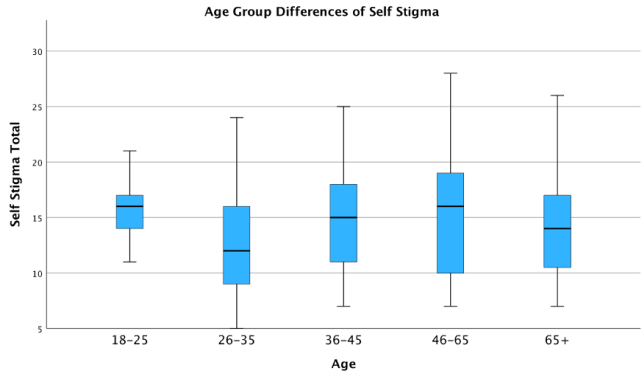
a. Bootstrapping with 1000 replicate samples used for this analysis.



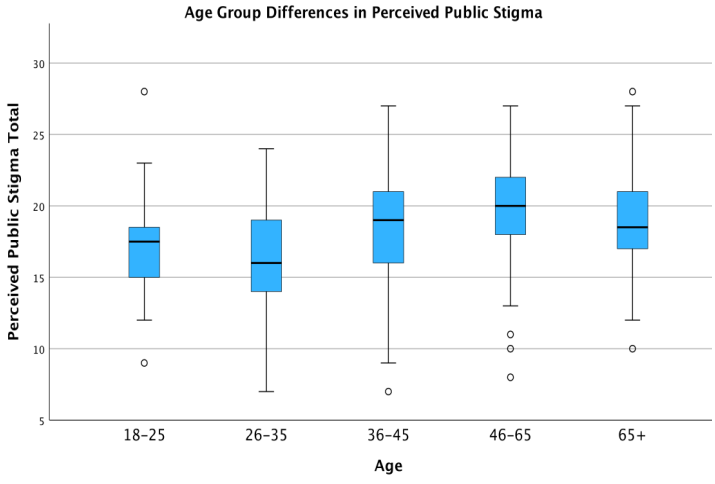
Graph #3 Comparison of the total Self-Sigma scores among male and female participants (Mann-Whitney U Test p-value = 0.678).



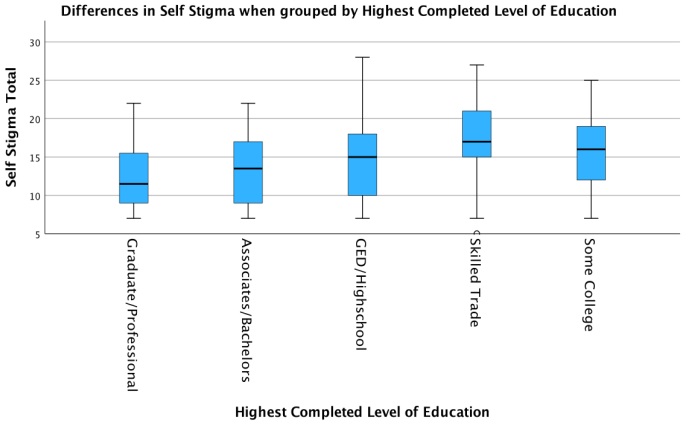
Graph #4 Comparison of total Public-Stigma scores among male and female participants (Mann-Whitney U Test p-value = 0.689).



Graph #5 Comparison of Self-Stigma scores among age groups (Kushal-Wallis Test p-value = 0.178).



Graph # 6 Comparison of Public-Stigma scores among age groups (Kushal-Wallis Test p-value = 0.003).



Graph #7 Comparison of Self-Stigma scores across highest completed education (Kushal-Wallis Test p-value = 0.007).

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