STIGMATIZING ATTITUDES TOWARDS MENTAL ILLNESS

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by

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Abstract

This study investigates whether education has an effect on stigmatizing attitudes towards mental illness among college students. A survey was administered measuring the prevalence of stigma towards mental disorders. Two samples of undergraduate students (Abnormal Psychology and Non-Abnormal Psychology) were questioned on their perceptions of hypothetical persons who embodied one of the following mental disorders: depression, schizophrenia, social anxiety disorder, or posttraumatic stress disorder. A series of Independent samples t-tests were performed to determine which mental disorder had the highest stigma. A significant amount of stigma was found towards schizophrenia and social anxiety disorder. No significant difference in total stigma was found between the abnormal and the non-abnormal sample, but a significant difference was found in total social distance; suggesting having an understanding of mental illness may change an individual's perceptions of mental illness. These findings suggest that education alone cannot be a sole predictor of stigma but may influence the individual's understanding of those diagnosed with a mental disorder.

Keywords: mental illness, mental health, stigma, attitudes

Introduction

Mental illness, according to the National Alliance on Mental Illness (NAMI)[1], is defined as a condition that affects an individual's thinking, feelings and or moods, which impair the individual's ability to relate to others and functions on a daily bases (2015). Conditions referred to in this definition are known as disorders. Disorders are defined by the DSM-5[2] as a behavioral or psychological syndrome or pattern that occurs in an individual that reflect an underlying psychobiological dysfunction; the consequences of which are impairments in important areas of functioning (Raskin, 2015). Mental illness and mental disorders are similar, but different, yet the terms are used interchangeably by the public, media, Internet, and some psychological publications (Szeto, Luong & Dobson, 2012). With each new edition of the DSM, terms, disorders, and symptoms are reviewed, redefined, and eliminated. It becomes difficult for the media, public and professionals to keep up with the ever-evolving psychological jargon.

The current population of the United States of America is 321,589, 490 people (2015). According to surveys conducted by the National Alliance on Mental Illness (NAMI), 1 in 5 adults in the United States experience mental illness in a year and 1 in 25 Americans experience a serious mental illness that interferes with or limits at least one major life activity. NAMI's survey also found a significant proportion of individuals have mental disorders in the United States; 2.4 million people live with schizophrenia, 14.8

[1] The National Alliance on Mental Illness is the nation's largest mental health organization dedicated to educating the public on mental health, advocating for those who have mental illnesses, and providing support and information for the diagnosed individual, their families, and the public.

[2] DSM-5 stands for the fifth edition Diagnostic and Statistical Manual or Mental Disorders (DSM). This is the standard classification of mental disorders used by health professionals. It contains the diagnostic criteria for every psychiatric disorders recognized by the United States healthcare system.

million people have had at least one major depressive episode in the past year, and 42 million people live with anxiety disorders such as panic disorders, obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), and specific phobias. A significant proportion of Americans have been diagnosed with a mental disorder, and the numbers above are only reflective of the individuals who have reported their disorder; many go undiagnosed and untreated. The more severe cases of undiagnosed and untreated individuals typically are unable to function in society, resulting in poor lifestyles and homelessness. Mental illness is not bound to America; many suffer worldwide, but the United States has the highest percentage of people diagnosed and seeking treatment (Greenfeld, 2013). The diagnosis of a mental disorder functions as a living label in western society. When an individual is diagnosed, the diagnoses are not only a name for the problems the individual is experiencing, but also a label the individual must live under. The individual must disclose this information to employers, doctors, friends, and family. This leads to a life sentence of being labeled and perceived as abnormal (Greenfeld, 2013). Diagnosed individuals are no longer seen as normal individuals, but typically only as the diagnoses and the assumptions made about their specific disorders. This affects the individuals psychologically and socially, because they are judged based on a label rather than on whom they are as a person. Diagnoses are necessary in the medical world, but among the public, diagnoses are seen as abnormal and confusing, resulting in negative attitudes towards mental health as a whole. This negative emotion is known as stigma.

Many studies have investigated the stigma surrounding mental disorders, mental health, and the terminology used, and it has been found that people from various

occupations, backgrounds, and ages have negative attitudes toward individuals with mental disorders (Szeto et al., 2012). In these studies researchers claim the negative attitudes originate because of a lack of education and misinformation provided by the media (Reavley & Jorm, 2011;Szeto et al., 2012). The present study will investigate whether education effect on the stigma associated with mental disorders focusing on four disorders: depression, schizophrenia, social anxiety disorder, and posttraumatic stress disorder (PTSD).

Literature review

Despite the commonality of mental illness and the general public's familiarity with individuals diagnosed with a mental disorder, stigmatizing attitudes are still prevalent (Adewuya & Mkanjuola, 2008). These attitudes can be related to a desire to not be socially intimate with people whom have mental illness; this is known as social distance (Adewuya & Mkanjuola, 2008). The misunderstandings surrounding mental illnesses are widespread and lead to stigmatizing attitudes. A study performed by Szeto et al., investigated whether common psychiatric labels (mental illness, mental disorder, mental disease, and mental health problem) when applied to depression had a negative association (2012). In Szeto et al.'s study, a survey was given to undergraduate psychology students. Researchers claimed to be a limitation of the study. Szeto et al. found no significant difference between the labels. The researchers concluded that research on stigmatizing attitudes is limited due to the number of labels used to describe mental health and the confusion and misunderstanding surrounding them (Szeto et al., 2012). Researchers also claimed the use of politically correct labels in society and daily life, in addition to have a minor understanding of psychology might lower stigma towards

mental disorders (Szeto et al., 2012). Szeto et al. set up a framework for future studies in which attitudes from non-psychology students and psychology students could be compared (2012). Finally, Szeto et al conclude education and awareness of all mental disorders, not mental illness as a whole, is key to reducing stigma (2012).

The belief that people diagnosed with mental illness are untreatable, difficult, unintelligent, or incapable of making informed decisions is prominent among individuals who have high stigma towards mental disorders (Jorm & Oh, 2009). Despite the existence of treatments for mental illness there remains a stigma; this stigma can lead the diagnosed individual to destructive behaviors, abuse, and rejection. A study conducted by researchers Jorm and Oh concluded the perceived threat of the mentally ill is the greatest indicator and potential cause of social distance; another attribute is the belief that mental illness is caused by weak character (2009). The public's attitude towards the mental illness affects the diagnosed individual in many ways, making it harder for the individual to establish relationships and trust. The higher stigma towards mental illness, the greater the social distance; according to Jorm and Oh social distance is the desire to avoid contact with a certain group of people, and it is a component of stigma (2009). Researchers proposed future studies, studies using hypothetical vignettes to create a situation about an individual who is relatable but suffers from a disorder to better measure for stigma and social distance; based on claims that the more personal the situation, the less stigma will be associated (2009).

Another study adduced the poor prognosis of those diagnosed with a mental illness, combined with the lack of effective medical treatment and education of the public, to explain the negative stigma towards mental illness (Markham, 2003). Whatever

the direct cause of stigma towards mental illness, stigma can be found not only among members of the public but also medical professionals. Markham found a significant level of stigma among medical professionals who worked with individuals diagnosed with borderline personality disorder, schizophrenia and depression (2003). Another study found stigma towards mental illnesses and social distance could not be completely overcome until the public abandons their perceptions of disorders as abnormal (Baumann, 2007).

The present study is modeled after the research conducted by Reaveley and Jorm; their data was collected in Australia and identified stigmatizing attitudes towards mental disorders (depression, anxiety disorders and schizophrenia and psychosis) in the general public and in youth (2011a, 2011b). Reaveley and Jorm performed telephone interviews in which they read the participant a vignette of an individual with a mental disorder. There were twelve vignettes, a male and female version for each of the following: early schizophrenia, chronic schizophrenia, depression, suicidal thoughts, social phobia and posttraumatic stress disorder (2011a, 2011b). Gender of the characters in the vignettes was randomly assigned, as was the disorder. The participants were then asked statements about perceived dangerousness and unpredictability, reality of diagnosis, and a desire for social distance; the focus was in the participants' responses to stigma and discrimination associated with the mental disorders (Reaveley & Jorm, 2011a, 2011b). Reavley and Jorm found in their studies Australians age 15 and up had perceptions of discrimination, social distance, dangerousness and unpredictability were highest for chronic schizophrenia; but beliefs that the diagnoses was associated with personal weakness and 'not a real mental illness' were higher for social phobia (2011a, 2011b). Researchers

suggested that an increase of education about mental illness and the disorders one could be diagnosed with would lower negative attitudes towards mental illness (Reavley & Jorm, 2011a, 2011b). Results from prior research are alarming: mental illness is a growing issue, and the stigma the suffering individual faces are real and global.

Disorders defined[3]

Depression

At least five of the following symptoms must be present nearly every day during the same two-week period. The symptoms must differ from the normal behavior of the individual and must cause significant distress or impairment in the individual's daily life. The symptoms must not be due to the use of substances (drug abuse and or medication). All other medical conditions, like hypothyroidism, must be ruled out as possible causes for changes in the individual.

Symptoms:

- Depressed mood almost all day
- Lack in interest and or pleasure in activities of daily life
- Significant weight loss, not caused by dieting
- Significant weight gain
- A decrease or increase in appetite
- Insomnia or hypersomnia
- Fatigue or loss of energy
- Feelings of worthlessness
- Excessive or inappropriate guilt
- Diminished ability to think, concentrate, or indecisiveness

[3] All disorders were defined according to the DSM-5.

Schizophrenia

Schizophrenia is characterized by delusions, hallucinations, catatonia[4], and disorganized speech and or behavior. Symptoms may cause much dysfunction in the individual's life. To be diagnosed, the symptoms must be present for six months, which includes at least one month of active symptoms. Schizophrenia is on a symptom threshold, which requires the person to exhibit symptoms for a set amount of time. In the DSM-5, schizophrenia is no longer divided into subtypes. All drug use and mediation side effects must be taken into account, as well as the individual's other medical conditions, if any, when considering this diagnoses.

Social Anxiety Disorder

The individual must suffer from significant distress and or impairment that interferes with the individual's ability to function in social settings. Distress must be present in social settings such as the individual's work, school, and every day social interactions. All drug use and medication the individual may be taking and any diagnosed and undiagnosed medical conditions must be taken into account when considering this diagnoses.

[4] Catatonia is the motor immobility and stupor of the individual's body. Catatonia can be present in other disorders and is not unique to schizophrenia.

Posttraumatic Stress Disorder (PTSD)

Events that trigger PTSD in an individual are exposure to actual or threatened death, serious injury, and sexual violation. The exposure must result from one or more of the following scenarios:

- Directly experiencing the event
- Witnessing the event
- Learning that the event occurred to a close family member or friend
- Experiences first-hand repeated or extreme exposure to aversive details of the event (not through media, pictures, television or movies unless work related)

Individuals must display certain behavioral symptoms, which are clustered together in categories described as re-experiencing, avoidance, negative cognition and mood, and arousal. The behavioral symptoms categories are the behavioral symptoms in each category much be displayed as a reaction to the traumatizing event. The DSM-5 requires that a disturbance continue for more than a month. The individual's other medical conditions and substance usage, if any, must be taken into account when considering this diagnoses.

Purpose

The purpose of this study is to investigate claims made by previous researchers regarding education effect on stigmatizing attitudes towards mental health by examining whether having more education on mental illnesses changes the attitudes held by the individual. The present study will investigate the stigma associated with mental disorders, focusing on four: depression, schizophrenia, social anxiety disorder, and posttraumatic stress disorder (PTSD). Similar to the findings of Szeto et al., it is hypothesized that participants of the present study who indicate being an undergraduate psychology student will have a lower cumulative stigma than participants who indicate otherwise (2012). It is hypothesized that participants who indicate having taken multiple psychology courses will have a lower cumulative stigma score than those who indicate otherwise. It is hypothesized that participants who indicate having taken Abnormal Psychology will have a lower cumulative stigma and a higher social distance cumulative than participants who indicate otherwise. Similar to the findings of Reavely and Jorm, it is hypothesized that there will be a higher cumulative stigma towards schizophrenia and schizophrenia will be indicated as the most dangerous (2011a, 2011b). In addition, it is hypothesized that anxiety disorders, social phobia and posttraumatic stress disorder (PTSD) will be identified more frequently as lacking legitimacy as a real medical diagnoses and as signs of personal weakness. Lastly, it is hypothesized that participants will identify individuals diagnosed with depression more frequently as being capable to 'snap out of it' and as being the most likely to tell someone about their mental illness.

Methods[5]

A survey was administered to 302 Texas State undergraduate students. The survey asked participants to respond to questions pertaining to vignettes. A consent form[6] was handed out and discussed before the survey was completed. Data was collected from psychology and non-psychology courses from November 9, 2015 through November 16, 2015. Three sections of an abnormal psychology course were surveyed. Non-psychology courses surveyed were biology, philosophy, modalities, and an English course. The researcher was present and administered the survey in the classroom; an alternative time was offered if individuals were unable to participate during the scheduled time.

Participants

302 Texas State University undergraduate students participated (see Figure 1). The mean age was 21. There were 184 females and 118 males. 182 participants were obtained from three abnormal psychology sections; these participants received extra credit for their participation. 120 participants were obtained from various different classes to create a diverse sample; these participants did not receive extra credit for their participation; all participated willingly.

Survey

The survey questions and vignettes were adapted from the interview questions used by Reavley and Jorm (N. J. Reavley, personal communication, 9 September 2015).

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[5] This study was exempt from IRB review, case #EXP2015R56896L.
[6] Consent form, survey, and the interview questions, which the survey was based, are all located in the *Appendix*.

The survey was anonymous, divided into three sections, and had four versions which were determined by specific mental disorder.

The first section consisted of six questions and assessed demographic information (age, gender, classification, etc.).

The second section contained a hypothetical vignette about Jenny or Johnny, an individual suffering from one of the four mental disorders depression, schizophrenia, PTSD, or Social Anxiety disorder. The mental illness was not named, but instead Jenny or Johnny displayed the characteristics of the mental illness.

The third section consisted of seven questions pertaining to perception of the randomly assigned mental disorder followed by five questions that measured the participants' social distance. Perception was gauged across seven dimensions of stigma: legitimacy, weakness, ability to overcome disorder ("snap out of it"), dangerousness, perceived willingness to tell others, unpredictability, and contagiousness. Social distance was gauged by the participants' willingness to interact with Jenny/Johnny by asking questions varying in degree of intimacies such as, "moving next to" the individual, working closely with the individual, and "inviting" the individual to "your apartment".

Statistical Analysis

A series of Independent sample t-test was performed using SPSS[7] to determine statistical significance of the data collected.

[7] SPSS is a statistical analysis computer program used among the behavioral sciences to determine significance of relationships between variables.

Results

The purpose of this study was to examine the relationship between education and stigma towards mental illness. The following Independent samples t-tests were performed in effort to confirm or deny the six hypotheses of this study; the results of the analysis are listed below (see Table 1).

The first Independent samples t-test was performed to compare the amount of cumulative stigma of psychology undergraduates (M= 24.60, SD= 6.054) to participants who indicated otherwise (M= 25.95, SD=5.895). There was not a significant difference, $t(296) = -1.797$, $p > 0.05$, $r^2 = .011$. The results indicate that there is no difference in the amount of stigma between psychology undergraduates and participants who indicated otherwise.

The second Independent samples t-test was performed to compare the amount of cumulative stigma of participants, who indicated having taken multiple psychology courses (M= 25.36, SD= 5.917) to those who indicated otherwise (M= 26.01, SD= 6.100); no significant results were found, $t(296) = -0.842$, $p > 0.05$, $r^2 = .002$. The results indicate there is no difference in stigma between participants who indicated having taken multiple psychology courses and those who indicated otherwise.

The third Independent samples t-test was performed to compare the amount of cumulative stigma held by participants from the abnormal psychology sample (M= 25.61, SD= 6.079) and those participants from the other courses (M= 25.44, SD= 5.816); no significant difference was found, $t(296) = 0.295$, $p > 0.05$, $r^2 = .001$. An independent sample t-test was performed to compare the amount of cumulative social distance held by

participants from the abnormal psychology sample (M= 16.88, SD= 6.079) and those participants from the other courses (M= 15.61, SD= 4.737); a significant difference was found, $t(300) = 2.295$, $p = 0.022$, r^2=0.02. The results indicate that there is no difference in stigma between participants who were from the abnormal psychology sample and the sample of participants from other courses, but there was a significant difference when the two groups where compared for cumulative social distance (see Figure 2). The participants from the abnormal psychology sample had a lower cumulative social distance than other participants.

The fourth Independent samples t-test was performed to compare the amount of cumulative stigma towards schizophrenia (M= 28.51, SD= 5.697) compared to the other disorders (M= 24.60, SD= 5.745); no significant difference was found, $t(296) = 5.048$, $p > 0.05$ r^2= .079. An independent sample t-test was performed to determine if schizophrenia (M= 2.92, SD= 0.872) was viewed as the most dangerous disorder than the other disorders (M= 1.75, SD= 0.925); a significant result was found but failed Levene's test, so equal variances could not be assumed, t(130.462)=9.832, p=.001, r^2=0.43. The results indicate that the majority of cumulative stigma was not towards schizophrenia, but schizophrenia was viewed as the most dangerous among the disorders.

The fifth Independent samples t-test was performed to determine if anxiety disorders (social anxiety disorder and PTSD) (M= 3.64, SD= 1.130) were viewed as lacking legitimacy as a medical disorder when compared to the other disorders (M= 4.08, SD= 1.065); a significant difference was found, $t(300) = -3.444$, p =.001, r^2 =0.04. An independent samples t-test was performed to determine if anxiety disorders (social anxiety disorder and PTSD) (M= 1.95, SD= 1.103) were viewed as a sign of personal

weakness when compared to the other disorders (M= 1.72, SD= 0.987); no significant difference was found, $t(299) = 1.899$, $p > 0.05$ $r^2 = .011$. These results indicate that anxiety disorders were seen as lacking legitimacy as a medical disorder but not as a sign of personal weakness.

The sixth Independent samples t-test was performed to determine if PTSD (M= 3.94, SD= 1.139) was viewed as lacking legitimacy as a medical disorder when compared to the other disorders (M= 3.84 SD= 1.112); no significant difference was found, $t(300) = 0.674$, $p > 0.05$ $r^2 = .002$. An independent samples t-test was performed to determine if PTSD (M= 1.70, SD= 1.065) was viewed as a sign of personal weakness when compared to the other disorders (M= 1.88, SD= 1.045); no significant difference was found, $t(299) = -1.284$, $p > 0.05$, $r^2 = .005$. The results indicate that PTSD was not viewed as lacking legitimacy as a medical disorder or as a sign of personal weakness.

The seventh Independent samples t-test was performed to determine if social anxiety disorder (M= 3.35, SD= 1.046) was viewed as lacking legitimacy as a medical disorder when compared to the other disorders (M= 4.03, SD= 1.091); a significant difference was found, $t(300) = -4.757$, $p=.001$, $r^2=0.07$. An independent samples t-test was performed to determine if social anxiety disorder (M= 2.20, SD= 1.090) was viewed as a sign of personal weakness when compared to the other disorders (M= 1.71, SD= 1.012); a significant difference was found, $t(299)=3.3546$, $p=.001$, $r^2=.04$. The results indicate that social anxiety disorder was viewed as lacking legitimacy as a medical disorder and as a sign of personal weakness when compared to the other disorders.

Lastly, the eighth Independent samples t-test was performed to determine if

depression (M= 2.08, SD= 0.983) when compared to the other disorders (M= 1.87, SD= 1.004) was viewed as disorder a diagnosed individual could "snap out of"; no significant results were found, $t(300) = 1.594$, $p > 0.05$, $r^2 = .008$. An independent samples t-test was performed to determine if depression (M= 2.13, SD= 0.905) when compared to the other disorders (M= 2.08, SD= 0.949) was viewed as a disorder a diagnosed individual would be most willing to disclose; no significant results were found, $t(299) = .429$, $p > 0.05$, $r^2 = .001$. The results indicate that depression was not viewed as a disorder a diagnosed individual could "snap out of" or as a disorder a diagnosed individual would be most willing to disclose any more frequently than the other disorders.

Discussion

The central purpose of this study was to investigate if an increase in education had an effect on stigmatizing attitudes towards mental illness. The findings of this study suggest that an increase in education may increase empathy towards diagnosed individuals but did not have an effect on stigmatizing attitudes among the samples in this study. Further research is needed to fully understand the relationship between education and stigma. Previous researchers have claimed an increase in education is the most probable way to lowering stigma towards mental illness, but despite recent interest in the topic among researchers these findings indicate there is more to lowering stigma than an increase in education.

This study expanded Szeto et al's research, and compared psychology undergraduate participants' results to non-psychology undergraduate participants' results (2012). No significant difference was found, but the abnormal psychology sample had a lower social distance score than the non-abnormal psychology sample. This finding is similar to Szeto et al.'s claims that having a basic understanding of psychology and mental disorders might lower stigma.

Jorm and Oh claimed the perceived threat of individuals with mental disorders and the belief that mental disorders are linked with personal weakness lead to higher social distance among the public (2012). The results from this study were similar to claims made by Jorm and Oh, but cannot fully support them. Schizophrenia was viewed as the most dangerous disorder and social anxiety disorder was viewed as a sign of personal weakness and lacking legitimacy as a disorder, but there was no significant finding for either disorder regarding social distance. Social anxiety disorder was known

as social phobia prior to the DSM-5. Perhaps the participants knew this previous diagnostic label and they associated the negative connotation of "phobia" with the new name, or only thought of extreme cases in which one would receive this diagnosis. The participants also could have viewed schizophrenia as most dangerous disorder. This could be because schizophrenia is to some degree an unpredictable and potentially dangerous disorder. The word *schizophrenia* is charged with negative emotions fed by the media's representation of the disorder. Often in horror films the villain, killer, or monster has characteristics of mental disorders, such as schizophrenia. One must take into consideration the media's portrayal of individuals with schizophrenia and social anxiety disorder when analyzing perceptions of the disorders.

The findings of the present study supported with the findings of Markham's research. In both Markham's research and the current study there was stigma associated with schizophrenia. As stated above, schizophrenia was viewed to be the most dangerous disorder, similar to Markham's findings. There might be a universal stigma towards schizophrenia because the disorder is not well understood and potentially makes the diagnosed individual unpredictable and dangerous.

Baumann claimed one of the most effective ways to lower stigma towards mental illness is to change one's perceptions of what is abnormal (2007). The findings of this study support Baumann's claim, since the abnormal psychology sample had a significant lower social distance score than the non-abnormal psychology sample. This finding supports his claim because the abnormal psychology sample was gathered from abnormal psychology classes in which individuals are exposed to various theories of mental illness and the symptoms, diagnoses, and treatments of mental disorders. This course could have

influenced the participants to be more empathic towards individuals with mental disorders by possibly shifting their understanding of abnormal.

This study was modeled after the research done by Reavely and Jorm (2011). The findings from this study are similar to the findings of Reavely and Jorm, yet cannot fully support their claims. Reavely and Jorm found stigma was present among all samples; the present study did not find any significant results for stigmatizing attitudes among participants, but the abnormal psychology sample had significant lower social distance scores (2011). Reavley and Jorm found that schizophrenia was viewed as unpredictable and dangerous and social phobia was viewed as lacking legitimacy as a medical disorder (2011). The findings of this study were very similar; schizophrenia was viewed as most dangerous and social phobia was seen as lacking legitimacy as a medical disorder and as a sign of personal weakness. The difference in findings might indicate a change in the way college-aged individuals view mental disorders, but this cannot be fully attributed to having an increased education about mental illness/mental disorders because the abnormal psychology sample only had one significant finding, lower social distance scores. It can be assumed that taking an abnormal psychology or a similar course might change the way a person views an individual diagnosed with a mental disorder, making that person more understanding of the struggles with the disorder and more willing to interact with the individual. There were not enough significant findings from this study to say this with full confidence, but it is something to consider when trying deciding how to lower stigma towards mental illness and mental disorders.

Education about mental disorders and mental health as a whole may inform an individual, but it may not change their beliefs about mental disorders completely. Stigma

is a belief held by an individual, education could inform an individual, but education alone cannot change individual's beliefs. The results of this study should be viewed as a partial support of previous research, also as an indication that views are shifting among the college population. This could be because mental health is being talked about in different areas of study as well as in the media. In regards to this study, it is important to consider that all students are required to take at least one social science course, it is possible, but not likely, that all participants could have taken introduction to psychology as their social science credit. There are many factors to take into consideration when trying to develop a plan of action to lower stigma; however, based on the results of this study it can be assumed that education may not have as big an impact as previous research has stressed.

Limitations

Since this study was an adaptive replication of previous work, limitations of this study are mainly focused around the sample. These results may not be an accurate reflection of the Texas State University population or the State of Texas population, since there was not enough diversity among the samples. The sample used in this study was determined by which departments would allow the researcher to administer the survey during class time. If the survey had been electronically administered, the sample could have potentially been more diverse in gender, age, military service, and major. Also, this study did not take into account the participants' personal experiences with mental disorders. Another limitation was the study's dependence on participants' pre-existing knowledge of the disorders. If participants were well read on the subject they could have easily predicted what the survey was gauging. Lastly, all data were collected in person

and in a self-report manner. Participants could have rushed through the survey without reading the material or not have enough time to answer the questions critically.

Future Research

Based on the findings of this study it is suggested that more focus be placed on stigma towards certain disorders rather than stigma towards mental illness. Future research should focus on if education does have an effect on stigma; tracking participants over time can do this. For example, surveying college freshmen and then surveying the same group of participants each year until their senior year of college to see if there was a change in views towards mental disorders and or mental illness. From this, a scale could develop based on demographic information provided by participants to determine if factors such as education level, income, race, age, gender, location, etc., can be used to predict the likelihood of an individual having stigmatizing attitudes towards mental illness and or certain disorders. A research design similar to this would produce results more fit to indicate a relationship between increased education and stigma because it could account for more factors that affect an individual. It is also suggested that data collection be conducted online. Online surveys give participants the freedom to participate on their time or at their own pace.

Conclusion

There is no sure way to determine if an increased education in mental health helps to lower stigma. Previous research suggests it might be the best course of action to aid in changing the public's views of mental illness. After totaling the stigma score for all participants, only two disorders, schizophrenia and social anxiety disorder had significant stigma scores. This can be seen as a sign of change among college-aged individuals, but

the reason for the change is unknown. The findings of this study suggest that an increased education in mental health does not seem to have an effect on stigma, but does affect social distance. Further research is needed before that claim can be made with complete confidence. Other factors must be taken into consideration when trying to address causes and ways to change stigma towards mental illness. The media must be taken into consideration before focusing awareness of mental illness through education. The public may not always have access to higher education, informational meetings, or events similar, but the public will always have exposure to the media. Overall, these findings suggest education does play a part in lowering stigma, but more in-depth research is needed to truly understand the relationship between education and stigmatizing attitudes towards mental illness.

Tables and Figures

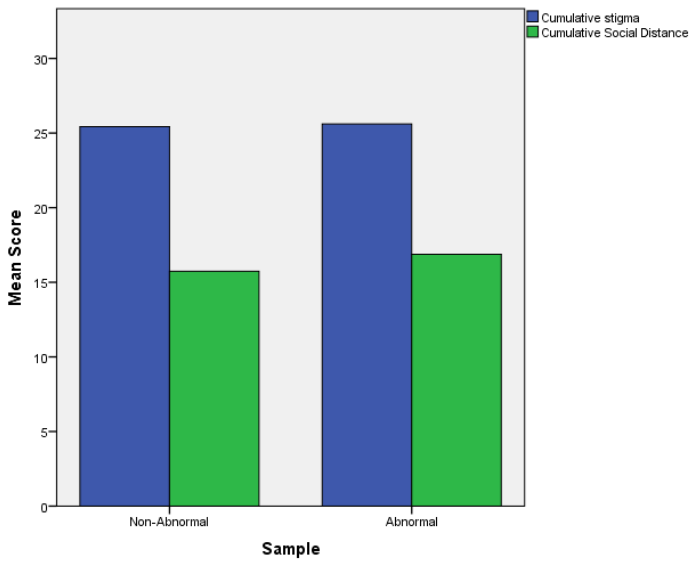
Figure 1

Classifciation of Participants

Figure 1 is a graph displaying the percentage of participants in each classification.

Figure 2

Cumulative Stigma and Social Distance Scores of the Abnormal and Non-Abnormal Sample



The higher the social distance score the more willing one would be to interacting with the diagnosed individual where as the higher the stigma score the more negative emotions one has associated with mental illness.

Table 1

Means and Standard Deviations of Significant Hypothesis

Hypothesis	Mean	Standard Deviation
Social Anxiety lacking legitimacy as a real medical illness	3.550	1.046
Social Anxiety is related to personal weakness	2.200	1.090
Schizophrenia is dangerous	2.920	0.872
Abnormal cumulative social distance	16.88	4.670

Appendix

Sample from original survey

The following is a sample from the interview questions used by Reavley and Jorm that were used to design the survey used in this study (2011).

***VIGNETTES**

*PROGRAMMER NOTE: RESPONDENTS TO BE RANDOMLY ALLOCATED TO VIGNETTES (NO RESPONDENT GENDER / VIGNETTE GENDER MATCHING NECESSARY). WILL NEED TO MONITOR RESPONDENT AGE / GENDER DISTRIBUTION FOR EACH SCENARIO.

*PROGRAMMER NOTE. PLEASE PRESENT John / him / his / he OR Jenny / her /she THROUGHOUT, DEPENDING ON VIGNETTE DISPLAYED.

*(ALL)

Vintro Now I am going to ask you about the health problems of a person I will call (John/Jenny). (John/Jenny) is not a real person, but there are people like (him/her). If you happen to know someone who resembles (him/her) in any way, that is a total coincidence.

1. Continue

*Scenario 1 - Depression

*1A. MALE

V1A John is 30 years old. He has been feeling unusually sad and miserable for the last few weeks. Even though he is tired all the time, he has trouble sleeping nearly every night. John doesn't feel like eating and has lost weight. He can't keep his

mind on his work and puts off making decisions. Even day-to-day tasks seem too much for him. This has come to the attention of his boss, who is concerned about John's lowered productivity.

If at any time you would like me to read out the scenario again, let me know.

*1B. FEMALE

V1B Jenny is 30 years old. She has been feeling unusually sad and miserable for the last few weeks. Even though she is tired all the time, she has trouble sleeping nearly every night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her work and puts off making decisions. Even day-to-day tasks seem too much for her. This has come to the attention of her boss, who is concerned about Jenny's lowered productivity.

If at any time you would like me to read out the scenario again, let me know.

*Scenario 2 – Depression with suicidal thoughts

*2A. MALE

V2A John is 30 years old. He has been feeling unusually sad and miserable for the last few weeks. Even though he is tired all the time, he has trouble sleeping nearly every night. John doesn't feel like eating and has lost weight. He can't keep his mind on his work and puts off making any decisions. Even day-to-day tasks seem too much for him. This has come to the attention of John's boss who is concerned about his lowered productivity. John feels he will never be happy again and

believes his family would be better off without him. John has been so desperate; he has been thinking of ways to end his life.

If at any time you would like me to read out the scenario again, let me know.

*2B. FEMALE

V2B Jenny is 30 years old. She has been feeling unusually sad and miserable for the last few weeks. Even though she is tired all the time, she has trouble sleeping nearly every night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her work and puts off making any decisions. Even day-to-day tasks seem too much for her. This has come to the attention of Jenny's boss who is concerned about her lowered productivity. Jenny feels she will never be happy again and believes her family would be better off without her. Jenny has been so desperate; she has been thinking of ways to end her life.

If at any time you would like me to read out the scenario again, let me know.

*Scenario 3 - Early schizophrenia

*3A. MALE

V3A John is 24 and lives at home with his parents. He has had a few temporary jobs since finishing school but is now unemployed. Over the last six months he has stopped seeing his friends and has begun locking himself in his bedroom and refusing to eat with the family or to have a bath. His parents also hear him walking about his bedroom at night while they are in bed. Even though they know he is alone, they have heard him shouting and arguing as if someone else is there.

When they try to encourage him to do more things, he whispers that he won't leave home because he is being spied upon by the neighbour. They realize he is not taking drugs because he never sees anyone or goes anywhere.

If at any time you would like me to read out the scenario again, let me know.

*3B. FEMALE

V3B Jenny is 24 and lives at home with her parents. She has had a few temporary jobs since finishing school but is now unemployed. Over the last six months she has stopped seeing her friends and has begun locking herself in her bedroom and refusing to eat with the family or to have a bath. Her parents also hear her walking about her bedroom at night while they are in bed. Even though they know she is alone, they have heard her shouting and arguing as if someone else is there. When they try to encourage her to do more things, she whispers that she won't leave home because she is being spied upon by the neighbour. They realize she is not taking drugs because she never sees anyone or goes anywhere.

If at any time you would like me to read out the scenario again, let me know.

<u>*Scenario 4 – Chronic schizophrenia</u>

*4A. MALE

V4A John is 44 years old. He is living in a boarding house in an industrial area. He has not worked for years. He wears the same clothes in all weathers and has left his hair to grow long and untidy. He is always on his own and is often seen sitting in the park talking to himself. At times he stands and moves his hands as if to

communicate to someone in nearby trees. He rarely drinks alcohol. He speaks carefully using uncommon and sometimes made-up words. He is polite but avoids talking with other people. At times he accuses shopkeepers of giving information about him to other people. He has asked his landlord to put extra locks on his door and to remove the television set from his room. He says spies are trying to keep him under observation because he has secret information about international computer systems which control people through television transmitters. His landlord complains that he will not let him clean the room which is increasingly dirty and filled with glass objects. John says he is using these "to receive messages from space".

If at any time you would like me to read out the scenario again, let me know.

*4B. FEMALE

V4B Jenny is 44 years old. She is living in a boarding house in an industrial area. She has not worked for years. She wears the same clothes in all weathers and has left her hair to grow long and untidy. She is always on her own and is often seen sitting in the park talking to herself. At times she stands and moves her hands as if to communicate to someone in nearby trees. She rarely drinks alcohol. She speaks carefully using uncommon and sometimes made-up words. She is polite but avoids talking with other people. At times she accuses shopkeepers of giving information about him to other people. She has asked her landlord to put extra locks on her door and to remove the television set from her room. She says spies are trying to keep her under observation because she has secret information about

international computer systems which control people through television transmitters. Her landlord complains that she will not let him clean the room which is increasingly dirty and filled with glass objects. Jenny says she is using these "to receive messages from space".

If at any time you would like me to read out the scenario again, let me know.

*Scenario 5 – Social phobia

*5A. MALE

V5A John is a 30-year old who lives alone. Since moving to a new town last year he has become even more shy than usual and has made only one friend. He would really like to make more friends but is scared that he'll do or say something embarrassing when he's around others. Although John's work is OK he rarely says a word in meetings and becomes incredibly nervous, trembles, blushes and seems like he might vomit if he has to answer a question or speak in front of his workmates. John is quite talkative with his close relatives, but becomes quiet if anyone he doesn't know well is present. He never answers the phone and he refuses to attend social gatherings. He knows his fears are unreasonable but he can't seem to control them and this really upsets him.

If at any time you would like me to read out the scenario again, let me know.

*5B. FEMALE

V5B Jenny is a 30-year old who lives alone. Since moving to a new town last year she has become even more shy than usual and has made only one friend. She would

really like to make more friends but is scared that she'll do or say something embarrassing when she's around others. Although Jenny's work is OK she rarely says a word in meetings and becomes incredibly nervous, trembles, blushes and seems like she might vomit if she has to answer a question or speak in front of her workmates. Jenny is quite talkative with her close relatives, but becomes quiet if anyone she doesn't know well is present. She never answers the phone and she refuses to attend social gatherings. She knows her fears are unreasonable but she can't seem to control them and this really upsets her.

If at any time you would like me to read out the scenario again, let me know.

*Scenario 6 – PTSD

*6A. MALE

V6A John is a 30-year-old who lives with his wife. Recently his sleep has been disturbed and he has been having vivid nightmares. He has been increasingly irritable, and can't understand why. He has also been jumpy, on edge and tending to avoid going out, even to see friends. Previously he had been highly sociable. These things started happening around two months ago. John owns a newsagent shop with his wife and has found work difficult since a man armed with a knife attempted to rob the cash register while he was working four months ago. He sees the intruder's face clearly in his nightmares. He refuses to talk about what happened and his wife says she feels that he is shutting her out.

If at any time you would like me to read out the scenario again, let me know.

*6B. FEMALE

V6B Jenny is a 30-year who lives with her husband. Recently her sleep has been disturbed and she has been having vivid nightmares. She has been increasingly irritable, and can't understand why. She has also been jumpy, on edge and tending to avoid going out, even to see friends. Previously she had been highly sociable. These things started happening around two months ago. Jenny owns a newsagent shop with her husband and has found work difficult since a man armed with a knife attempted to rob the cash register while she was working four months ago. She sees the intruder's face clearly in her nightmares. She refuses to talk about what happened and her husband says he feels that she is shutting him out.

Q19 The next few questions contain statements about (John/Jenny)'s problem. Please indicate how strongly YOU PERSONALLY agree or disagree with each statement….

INTERVIEWER NOTE: PROBE FOR STRONGLY/JUST AGREE/DISAGREE

(STATEMENTS)

a) People with a problem like (John/Jenny)'s could snap out of it if they wanted
b) A problem like (John/Jenny)'s is a sign of personal weakness.
c) (John/Jenny)'s problem is not a real medical illness.
d) People with a problem like (John/Jenny)'s are dangerous. IF NECESSARY: By 'dangerous' we mean "dangerous to others".
e) It is best to avoid people with a problem like (John/Jenny)'s so that you don't develop this problem.

f) People with a problem like (John/Jenny)'s are unpredictable.

g) If I had a problem like (John/Jenny)'s I would not tell anyone.

h) I would not employ someone if I knew they had a problem like (John/Jenny)'s.

i) I would not vote for a politician if I knew they had suffered a problem like (John/Jenny)'s.

RESPONSE FRAME

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. Not applicable (not old enough to employ someone) (DISPLAY FOR STATEMENT h ONLY)
7. Not applicable (Not old enough to vote) (DISPLAY FOR STATEMENT i ONLY)
8. (Don't know)
9. (Refused)

*(ALL)

Q21 The next few questions ask about how willing you would be to have contact with someone like (John/Jenny).

(STATEMENTS)

a) How willing would you be to move next door to (John/Jenny)?

b) How willing would you be to spend an evening socializing with (John/Jenny)?

c) How willing would you be to make friends with (John/Jenny)?

d) How willing would you be to have (John/Jenny) start working closely with you on a job?

e) How willing would you be to have (John/Jenny) marry into your family?

(READ OUT…)

1. Definitely willing
2. Probably willing
3. Probably unwilling
4. Definitely unwilling
5. Don't know
6. (Refused)

Survey

The survey below was used in this study. There were eight versions of the survey; a male and female situation for each disorder investigated in this study. Participants were given one of eight versions. Participants circled or filled in their answers on the document. All data was entered manually into SPSS. The eight versions of the vignette are presented below and labeled according to which disorder the vignette is describing.

Section 3 asked questions pertaining to the vignette. The sample below is of "Jenny". The questions pertaining to "Johnny" were the exact questions with Jonny in place of jenny.

Section 1: Demographics

Indicate your response by circling or filling in your answer below.

1. What was your age on your last birthday? _____
2. What is your gender?

   A. Male B. Female

3. Have you served in the military?

   A. Yes B. No

4. What is your classification at this university

   A. Freshmen B. Sophomore C. Junior D. Senior E. Non degree seeking

5. Have you taken a psychology course, excluding INTRO TO PSYCHOLOGY?

   A. Yes B. No

6. What is your major(s)? If undecided write "undecided"

   _____

Section 2: Vignette

The following is a hypothetical situation. If you happen to know someone who resembles this hypothetical person in any way it is a coincidence. Please read and think about the following scenario. Again, this is a hypothetical person.

Depression

Johnny is 24 years old. He has been feeling unusually sad and miserable for the last few weeks. Even though he is tired all the time, he has trouble sleeping almost every night. Johnny doesn't feel like eating and has lost weight. He can't keep his mind on his work and puts off making decisions. Even day-to-day tasks seem too much for him. This has come to the attention of his friends, who are concerned about his change.

Jenny is 24 years old. She has been feeling unusually sad and miserable for the last few weeks. Even though she is tired all the time, she has trouble sleeping almost every night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her work and puts off making decisions. Even day-to-day tasks seem too much for her. This has come to the attention of Jenny's friends, who are concerned about her change.

PTSD

Johnny is 24 years old and lives with his best friend in Austin. Recently his sleep has been disturbed and he has been having vivid nightmares. He has been irritable and jumpy and cannot understand why. These things started happening about two months ago. Johnny was walking to meet his best friend at a local bar when he was robbed at gunpoint. He clearly sees the robbers face in his nightmares. He refuses to talk about it with his best friend who feels as if Johnny is shutting him out.

Jenny is 24 years old and lives with her best friend in Austin. Recently her sleep has been disturbed and she has been having vivid nightmares. She has been irritable and jumpy and cannot understand why. These things started happening about two months ago. Jenny was walking to meet her best friend at a local bar when she was robbed at gunpoint. She clearly sees the robbers face in her nightmares. She refuses to talk about it with her best friend who feels as if Jenny is shutting her out.

Schizophrenia

Johnny is 24 years old and lives at home with his parents. He has had a few temporary jobs since graduating but is now unemployed. Over the last six months Johnny has stopped seeing his friends and has started locking himself in his bedroom and refuses to eat with his family or to shower. Johnny's parents also hear him walking around his bedroom at night while they are in bed. Even though they know Johnny is alone, they have heard him shouting and arguing as if someone else is in his bedroom. When Johnny's parents try to encourage him to do more things, he whispers that he won't leave the house because he the neighbor is spying on him. They realize he is not using drugs or drinking alcohol because he never sees anyone or goes anywhere.

Jenny is 24 years old and lives at home with her parents. She has had a few temporary jobs since graduating but is now unemployed. Over the last six months Jenny has stopped seeing her friends and has started locking herself in her bedroom and refuses to eat with her family or to shower. Jenny's parents also hear her walking around her bedroom at night while they are in bed. Even though they know Jenny is alone, they have heard her shouting and arguing as if someone else is in her bedroom. When Jenny's parents try to encourage her to do more things, she whispers that she won't leave the house because the neighbor is spying on her. They realize she is not using drugs or drinking alcohol because she never sees anyone or goes anywhere.

Social Anxiety Disorder

Johnny is 24 years old and lives alone. Since moving to Austin last year he has become even more shy than usual and has only made one friend. He would really like to make more friends but is scared that he'll do or say something embarrassing when he's around others. Although Johnny's job is okay he rarely says a word in meetings and becomes quiet if anyone he doesn't know well is present. Johnny never answers the phone and refuses to attend social gatherings. He knows his fears are unreasonable but he can't seem to control them and this really upsets him.

Jenny is 24 years old and lives alone. Since moving to Austin last year she has become even more shy than usual and has only made one friend. She would really like to make more friends but is scared that she'll do or say something embarrassing when she is around others. Although Jenny's job is okay she rarely says a word in meetings and becomes quiet if anyone she doesn't know well is present. Jenny never answers the phone and refuses to attend social gatherings. She knows her fears are unreasonable but she can't seem to control them and this really upsets her.

Section 3: Questions pertaining to vignette

The following questions are to be answered on a scale of agreement, the scale is indicated below, please fill circle the number that indicates to what degree you agree with each statement.

Least Agreement **Strong Agreement**

1 2 3 4 5

Please indicate how strongly you agree with the following statements:

5. People with a problem like Jenny's could snap out of it if they wanted

1 2 3 4 5

6. A problem like Jenny's is related to personal weakness

1 2 3 4 5

7. Jenny's problem is a real medical illness

1 2 3 4 5

8. People with a problem like Jenny's are dangerous to others

1 2 3 4 5

9. It is best to avoid people with a problem like Jenny's because it can be spread

1 2 3 4 5

10. People with a problem like Jenny's are unpredictable

1 2 3 4 5

11. Others with a problem like Jenny's are willingly to tell others of their problem

1 2 3 4 5

The following statements pertain to how willing you would be to interact with hypothetical person Jenny. Indicate to what degree you agree to the situation by using the scale below. Circle the number that indicates to what degree you agree which each statement.

Least Agreement **Strong Agreement**

1 2 3 4 5

How willing would you be to:

12. Move next door to Jenny

1 2 3 4 5

13. Spend an evening socializing with Jenny

1 2 3 4 5

14. To become friends with Jenny

1 2 3 4 5

15. Work closely with Jenny on a project

1 2 3 4 5

16. To invite Jenny to your apartment

1 2 3 4 5

Consent Form

Consent Form

You are being asked to be a part of a research project. We are investigating if education has an effect on stigma towards mental illness. If you agree to participate in this research, you will be asked to take a survey of 18 questions. It should take about 10-15 minutes to complete. Mackenzie Luna is conducting this research under the supervision of Dr. Ollie Seay of Texas State University.

We do not believe that there are any serious risks involved by participating in this study. You may choose not to continue the survey at any point in time.

There are no direct benefits to you for participating in this study. You will not receive anything for participating. However, you are contributing to research.

The surveys are anonymous; in no way can your responses be traced back to you. The surveys will be kept in the care of Mackenzie Luna and Dr. Seay until the research is complete. Only Mackenzie Luna and Dr. Seay will have access to the surveys, which will be kept at Texas State University. The surveys will be destroyed after completion of the study.

The Texas State IRB on 10/24/15 approved this project EXP2015R568969L. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 - lasser@txstate.edu) and to Becky Northcut, Director, Research Integrity & Compliance (512-245-2314 - bnorthcut@txstate.edu).

Your participation is voluntary, and by refusing to participate there is no penalty. You may stop taking the survey at any time without penalty.

A summary of the finding from this research, upon completion, can be provide upon request. To access the results of this study, contact Dr.Seay.

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