PERCEPTIONS OF STIGMA AND VIOLENCE TOWARDS INDIVIDUALS WITH DEPRESSION AND SCHIZOPHRENIA

by

Neera Gundrania

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This thesis was presented

by

Neera Gundrania

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and approved by

Thesis Advisor: Beth A.D. Nolan, PhD, Assistant Professor, Behavioral and Community Health Sciences, Graduate School of Public Health, University of Pittsburgh

Mary Hawk, DrPH Visiting Assistant Professor, Behavioral and Community Health Sciences, Graduate School of Public Health, University of Pittsburgh

Catherine Greeno, PhD Associate Dean for Research, Graduate School of Social Work, University of Pittsburgh

Beth A.D. Nolan, PhD

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Neera Gundrania, MPH

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ABSTRACT

Objective: Individuals who suffer from a mental illness are generally experience stigma. There is a perception that individuals with a mental illness are different and are more likely to display acts of violence than individuals without a mental illness. This study examined the willingness of individuals to interact with males and females who exhibited symptoms commonly associated with depression or schizophrenia based on characters presented in vignettes. An additional question based on how likely the characters presented in the vignettes are to exhibit acts of violence was assessed. Methods: The study utilized a sample of the 2006 data from the General Social Survey; the sample size was 825. Randomly selected participants were read vignettes with characters that presented symptoms commonly associated with depression or schizophrenia. Based on the vignettes, participants were asked six questions focused on their willingness to interact with the characters presented in the vignettes. The participants were asked an additional question based on their perception of violence in regards to the characters presented in the vignettes. Results: Participants gave the male vignette character a higher mean score on all willingness to interact questions for both the vignettes depicting depression and schizophrenia. Conclusions: In general, stigmatization exists among individuals who suffer from depression and schizophrenia. The results of this study may have implications as to mental health care efforts should focus to reduce illness

and gender specific related stigma. Mental illness effects a large segment of the US population, therefore, it is of public health significance to reduce mental health related stigma.

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PREFACE

First and foremost, I would like to thank my parents Kishor and Surekha Gundrania for their continued love and support. I would also like to thank Dr. Beth Nolan from the University of Pittsburgh and Dr. Andrew Sarkin, Kyle Choi, and Dara McIntyre from the University of California San Diego Health Services Research Center for all of their help throughout my academic career.

1.0 INTRODUCTION

As of 2012, one out of four adults 18 and over suffer from at least one type of mental illness in the United States (US) [1]. The Centers for Disease Control and Prevention (CDC) defined mental illness as all diagnosable mental disorders [2]. In particular, approximately 9.6 million US adults suffer from a severe mental illness (SMI) [3]. The National Institute of Mental Health (NIMH) and the National Survey on Drug Use and Health (NSDUH) defined severe mental illness as; a mental, behavioral, or emotion disorder (excluding developmental and substance abuse disorders) which results in serious functional impairment which substantially interferes with or limits one or more major life activities [3]. Two specific types of SMI include major depressive disorder and schizophrenia. Major depressive disorder was defined as the combination of symptoms that interfere with a person's ability to work, sleep, study, eat, and enjoy once-pleasurable activities [4]. Schizophrenia is defined as a disturbance with symptoms such as delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior and negative symptoms for at least a period of at least one month [5].

There is a perception among the general public that mental health is stigmatized [6-8]. Stigma associated with mental illness includes the perception that individuals with a mental illness were more likely to exhibit dangerous and violent behaviors and that there may a disruption in their social interactions [9, 10]. Stigma also includes the perception that individuals believe that people with a mental illness are "different" than the general population [11]. In particular, though

depression and schizophrenia are two mental illness that are stigmatized, there was a greater level of stigma associated with schizophrenia [12]. Further, men who suffered from a mental illness were generally more stigmatized than women with a mental illness [12]. A stronger level of stigma was associated with men who suffered from depression and schizophrenia than women who suffered from depression and schizophrenia [6, 13].

The purpose of this thesis was to examine the perception of stigma associated with individuals who suffer from a mental illness, in particular, depression and schizophrenia. Stigma was conceptualized through the use of six questions, which represented an individual's level of desire to interact with someone who exhibited symptoms commonly associated with depression and schizophrenia. An additional question based on the perception of violence was also assessed to address stigma. Our hypotheses included that men would be more stigmatized than women and that individuals suffering from depression would be less stigmatized than individuals who suffered from schizophrenia.

2.0 BACKGROUND

The CDC defined mental illness as all diagnosable mental disorders where the individual experiences sustained abnormal alternations in thinking, mood, or behavior associated with distress and impaired functioning [2]. The effects of mental illness included disruptions of daily function; incapacitating personal, social, and occupational impairment; and premature death [14]. The CDC reported that as of 2012, approximately 25% of adults in the United States (US) currently suffer from some from of a mental illness and nearly 50% of all US adults will have developed at least one mental illness during their life course [14]. In 2012, the Substance Abuse and Mental Health Services Administration (SAMHSA) reported that 23% of women and 15.9% of men experienced a mental illness in the US that year [15].

2.1 SEVERE MENTAL ILLNESS

According to the National Institute of Mental Health (NIMH) and the National Survey on Drug Use and Health (NSDUH) the criterion for a severe mental illness (SMI) included;

- A mental, behavioral, or emotional disorder (excluding developmental and substance use disorders);
- Diagnosable currently or within the past year;
- Of sufficient duration to meet diagnostic criteria specific with the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV);

- Resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities. [3]

Based upon this definition of SMI, as of 2012, approximately 9.6 million adults 18 and over in the United States were diagnosed with SMI [3]. Out of the 9.6 million adults with SMI, 4.9% were females and 3.2% were males [3].

2.2 MAJOR DEPRESSIVE DISORDER

The NIMH characterized major depressive disorder or major depression by a combination of symptoms that interfere with a person's ability to work, sleep, study, eat, and enjoy once-pleasurable activities [4]. Major depression has been characterized as disabling and prevents a person from functioning normally [4]. Approximately 6.7 million adults in the US experience major depressive disorder every year [4]. Women were also 70% more likely than men to experience a form of depression in their life-course [4]. There are many forms of depression such as dysthymic disorder, minor depression, psychotic depression, postpartum depression, and seasonal affective disorder [4]. Major depressive disorder affects every individual differently through the severity, frequency, and duration of symptoms [4]. Though, everyone is affected differently, common signs and symptoms include; persistent sad, anxious, or "empty" feelings, feelings of guilt, worthlessness, or helplessness, aches or pains, headaches, cramps, and thoughts of suicide [4].

2.3 SCHIZOPHRENIA

The *Diagnostic and Statistical Manual of Mental Disorders* Fourth Edition (DSM-IV) defined schizophrenia as a disturbance that lasts for at least six months and includes at least one month of active-phase symptoms (i.e., two [or more] of the following: delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, negative symptoms) [5]. Approximately 3.2 million (1.1%) of US adults were diagnosed with schizophrenia as of 2012 [16]. Schizophrenia affects males and females equally [17]. Though it is estimated that an equal number of men and women develop schizophrenia, women are more likely to have a later onset of the disease, more prominent mood symptoms, and a better prognosis than men [5].

The symptoms of schizophrenia are commonly separated into three board categories; positive symptoms, negative symptoms, and cognitive symptoms [17]. Positive symptoms include hallucinations, delusions, thought disorders, and movement disorders [17]. The most common type of hallucination an individual with schizophrenia experiences are “voices” [17]. Negative symptoms disrupt an individuals normal emotions and behaviors with symptoms such as; “flat affect” (a person’s face does not move when they speak), lack of pleasure in everyday activities, lack of ability to begin and sustain planned activities, and decreased speaking [17]. Lastly, cognitive symptoms include a poor ability to understand information and make decisions, trouble focusing, and problems with “working memory” [17]. Depending on how severe an individual’s symptoms are with and without treatment, an individual living with schizophrenia may need help with everyday tasks [17, 18].

2.4 PERCEPTION OF MENTAL ILLNESS

Stigma is referred to as the negative stereotyping of individuals with specific characteristics that are different from others [19]. Stigma associated with mental illness has existed for many years and affects individuals worldwide [6-8]. The cause of stigma appears to stem from the lack of mental health literacy and perceived treatability of the illness [13]. In two separate studies, individuals with a mental illness and perceived stigma report that they experienced a significantly poorer quality of life, increased work limitations, and increased social limitations than individuals without perceived stigma [7, 20]. Further, living with a mental illness has lead to social exclusion which includes reduced access to employment opportunities, poverty, and negative effects on social network [9]. Some studies have concluded that individuals with a mental illness were perceived as less acceptable than individuals within certain disability groups [21, 22].

The influence stigma can have on an individual's life can drastically effect their willingness to seek proper mental health treatment and disease outcome [8]. In particular, individuals with depression and schizophrenia face stigmatization, though, the literature suggests that individuals with schizophrenia face a greater degree of stigma [12]. Additionally, women with a mental illness face less stigmatization than men with mental illness [12].

2.5 STIGMA BEGINS AT A YOUNG AGE

Stigma associated with mental health may start from an early age [23]. Gender differences associated with negative mental health attitudes and the reluctance to seek mental health care may begin to develop as early as adolescence [23]. In 2004, 294 eighth graders in two mid-Atlantic

schools were administered a written questionnaire [23]. The questions covered an array of topics including; respondent characteristics, social support for emotional concerns, barriers to obtaining mental health services, stigma associated with seeking mental health services, experience with mental health issues, mental health knowledge, and peer advice scenarios [23]. In terms of barriers to obtaining mental health services the most common responses included, "too embarrassed by what other kids would say" (59.1%), "don't want to talk about those kids of problems with anyone" (51.8%) and "don't trust counselor" (42.7%) [23].

In regards to questions about the stigma associated with seeking mental health services, 34.6% of the participants stated that there was a moderate to high level of stigma associated with mental health services with boys having a larger mean score than girls [23]. Further, 59.1% of the participants indicated knowledge of at least three of the four mental health experience items, though more girls than boys demonstrated mental health experience [23]. These types of negative early experiences can manifest into a greater delay to seek appropriate mental health services later in life [23].

2.6 STIGMA AND DEPRESSION

Studies have shown that in developed countries, individuals with depression face a significant among of stigma [24]. Though the level of stigma associated with depression was reportedly much less than stigma related to schizophrenia and drug or alcohol dependence, it was still a cause of public health concern [24]. Individuals with depression who experience stigma may have been resistant to seek care, more likely to discontinue treatment, experienced a poorer quality of life and health outcomes, and negatively affected one's self-esteem [19]. Depression is commonly seen as

a sign of weakness or a flaw, and this attitude is more commonly associated with men than women [25]. Further, men may have less knowledge about depression and greater misconceptions about risk factors which can lead to a higher degree of stigma than women [6].

2.7 STIGMA AND SCHIZOPHRENIA

Schizophrenia has been described as one of the most stigmatized mental illness [26]. Individuals with schizophrenia experienced a greater level of stigma from family, partners, friends and people within their social networks than individuals with another mental illness [11, 27]. An abundance of literature indicated that individuals with schizophrenia were treated as second-class citizens, had increased difficulty at employment or obtaining employment, and were treated as unwelcomed neighbors in communities [11, 21, 26]. This stigma appeared to contribute to an individuals' inclination to socially distance themselves from individuals with schizophrenia [28]. There is strong public perception that individuals with schizophrenia are dangerous and had violent tendencies, which increased the level of stigma association with schizophrenia [21, 26].

In 2012, an article titled "A first national survey of knowledge, attitudes, and behaviors towards schizophrenia, bipolar disorders and autism in France" was published [13]. For this study, one thousand adults were surveyed with a 21-item questionnaire which examined their knowledge, attitudes, and behaviors towards individuals with schizophrenia, bipolar disorders and autism [13]. In regards to schizophrenia, two out of three respondents considered individuals with schizophrenia to be dangerous, had a low expectation of their functioning, and had a greater desire to socially distance themselves and their children from these individuals [13].

2.8 PERCEPTION OF VIOLENCE

Individuals suffering from a mental illness were perceived to be more dangerous than individuals without a mental illness [21]. In general, if someone were to believe that an individual with a mental illness is dangerous, they are less likely to have social interactions such as having them close to them, their family or close to their homes. This perception was associated with males more so than females [21]. One study has indicated that people are less likely to find someone with a mental illness as dangerous if they have had pervious contact or have previously known someone with a mental illness [11]. In particular, attitudes of violence and dangerousness were associated with schizophrenia, more so than other mental illnesses [11, 26]. Though most individuals with schizophrenia are not violent, there is a small scientific association between schizophrenia and violence [29, 30]. Further, the same studies indicate that violent acts committed by individuals with schizophrenia are towards individuals with whom they have a relationship [30].

One particular study compared three types of data to determine if there was indeed a correlation between individuals with a mental illness and increased rates of violence collected over a span of 15 years [31]. The study compared the prevalence of violent acts committed by individuals prior to being admitted to a hospital, the prevalence of violent acts committed during their respective hospital stay, and the prevalence of violent behavior after being discharged from the hospital [31]. Two key findings suggested that individuals with schizophrenia, major depression, or mania/bipolar disorder committed similar number acts of violence regardless of the diagnosis. Further, the rate of violence was greater among the young, men, and individuals with a substance abuse diagnosis [31].

2.9 GENDER DIFFERENCES IN DEPRESSION

In addition to violence, gender also plays a role in the prevalence of certain illnesses and the perceptions of those illnesses, particularly for depression and schizophrenia. Women were twice as likely to develop some type of major depressive disorder than males, and this ratio is generally consistent on a national and global level [32-34]. In addition to the differences in prevalence of depression between females and males, there were differences among the time of development, the risk factors for depression, and the clinical presentation of depression. [32].

2.9.1 TIME OF DEVELOPMENT

A literature review on gender differences in depression for males and females indicated that the differences of the types of symptoms and how depression developed over time began during adolescence [35]. The key findings from the review indicated that boys and girls have similar causes of depression, however, the causes become more prevalent in girls than boys in early adolescence [35]. Girls demonstrated more self-defeat, were more likely to use ruminative coping strategies, had increased body dissatisfaction, had increased social challenges such as rape and sexual abuse, and experienced increased expectations from parents and peers to comply with gender roles. Boys demonstrated more aggression and expressed increased rates of dominance when dealing with causes of depression [35]. In general, females were more likely to develop a form of depression starting at mid-puberty and continuing through their adult lives than males [35, 36].

Studies have shown that when girls were suffering from depression they were more likely to become quiet and keep to themselves, while boys were more likely to be irritable and act out

[37]. Further, there is was an abundance of evidence that indicated that depression greatly affected females during childbearing years, causing females to either develop a major depressive disorder at that time or intensifying existing depressive symptoms [32, 38].

2.9.2 DIFFERENCES AMONG RISK FACTORS

Recent studies examined the notion of being "happy" [37, 39]. The findings suggested that women were generally less happy then men due to factors such as the increased societal pressure to be successful at multiple role such as being a wife, employee, family member, and community member [36, 37]. Social factors such as bullying, sexual abuse, rape, work harassment, and loss of employment also play a pivotal role in the development of a major depressive disorder [36, 37]. Women were also more like to experience these stressful life events than men [34].

One study examined the association between stressful life events and the development of major depression in women [40]. The stressful life events the study examined were assault, serious marital problems, divorce/breakup, job loss, loss of confidant, serious illness, major financial problem, being robbed, and serious legal problem [40]. The results illustrated that the odds ratio for major depression to develop in the women increased during the month of the respective stressful life event [40].

2.9.3 DIFFERENCES AMONG SYMPTOMS

In general, females were more likely to experience an increase in appetite and weight gain while suffering from depression and males were more likely to experience insomnia and weight loss [32, 41]. Males exhibited higher levels of irritability, aggressiveness, acting-out behavior, a lower

tolerance for stress, and increased rates of alcohol use while suffering from depression [32]. While suffering from a major depressive disorder, women were more likely to internalize their emotions by remaining quiet and crying, however, men were more like to externalize their emotions with expressing anger and increasing their alcohol intake [37].

In 1995, a major study used the DEPRES Study dataset that included a population sample of 38,434 men and 40,024 women from six European countries [33]. A few of the key findings included that women reported symptoms such as the lack of energy, reduced levels of sleep, changes in appetite and increased crying, whereas, males reported a greater desire to consume alcohol during periods of depression and anxiety [33]. Men were also more likely to attribute their symptoms of depression to physical and work related issues while females were more likely to attribute their symptoms to relationship problems [33].

2.10 GENDER DIFFERENCES IN SCHIZOPHRENIA

Research regarding the gender differences in schizophrenia though has not been very extensive, has recently garnered increased attention [18]. Studies indicated that there were notable gender differences in terms of age of onset, prognosis of symptoms, and the level of social functioning between males and females [42-44].

2.10.1 AGE OF ONSET

Much of the literature suggested that males experienced an earlier age of onset of schizophrenia than women [43]. In addition, to an earlier onset, males also experienced their first instance of

hospitalization and had longer hospital stays than women [43, 45]. Biological explanations have been offered to explain the gender differences for the age of onset for schizophrenia. Much of the literature suggested that the presence of estrogen in women provided a neuroleptic-like effect which acts as a protective factor that delays the onset of disease [43].

2.10.2 DIFFERENCES FOR PROGNOSIS

A major study from 2003 assessed 232 individuals with an onset of schizophrenia in Germany [46]. The study assessed the individuals with the Scale for the Assessment of Negative Symptoms, the Present State Examination, the Psychological Impairments Rating Schedule, and the Disability Assessment Schedule [46]. The study concluded that males with schizophrenia were more likely to have a poorer social course than premenopausal women [46]. Gender differences were apparent in the severity of the episodes of symptoms males developed versus females [46].

Further, the study investigated the gender differences in social and coping mechanisms using 303 single items from instruments that measures symptoms, functional impairment and social disability [46]. The largest gender differences were in regards to the socially adverse behavioral items which included self-neglect, lowered interest in employment, social withdrawal and communication deficits where males demonstrated these behaviors more often than females [46]. The author attributed the poor social course and increased socially adverse behavior that males with schizophrenia endured to increased social consequences [46]. Additionally, the pronounced behavioral differences between males and females may have been related to the notion that it was more socially accepted for males to suffer from conduct disorders, were more likely to be anti-social, and were more likely to engage in disruptive and violent behavior than females [46].

2.10.3 DIFFERENCES IN THE LEVEL OF SOCIAL FUNCTIONING

In terms of social functioning, females with chronic schizophrenia had higher rates of education, were more successful in the workplace, and generally had higher rates of social functioning than males [43, 46]. One article suggested that the social expectations for men as a reason for their lower levels of social functioning than women [47]. The article suggested that males with schizophrenia demonstrated lower levels of social competences due to the fact that society had higher expectations of men in terms of taking responsibility of social and financial affairs [47]. Therefore, if a woman with schizophrenia began to show signs of struggle in their social and financial affairs, it was tolerated for a longer period of time than if men were to demonstrate the same struggle [47].

One study examined 85 individuals with schizophrenia and were assessed with the Brief Psychiatric Rating Scale (Overall & Gorham), the Scales for the Assessment of Positive and Negative Symptoms (N. Andreasen), the Halstead-Reitan Battery (W. Halstead), IQ scores from the WAIS-R (D. Wechsler) and a magnetic resonance imagining was performed [42]. The results of this study indicated that women were schizophrenia were more likely to be married, live independently, and have some sort of employment than men [42]. The study suggested that the gender differences for social functioning may be attributed to the notion that society has a less tolerance for deviant behaviors by males [42].

Overall, mental illness affects a significant portion of the US population. Though some form of major depression disorder affects a much greater segment of the population than schizophrenia, there is a perception of stigma and violence among the general population towards both illnesses. Further, there are gender differences not only with the perception of stigma but also

in the age of onset, risk factors, prognosis, level of social functioning and the clinical presentation of depression and schizophrenia.

2.11 PREVIOUS STUDIES

Over the years, similar studies have been conducted to assess the public's perception of individuals who suffer from a mental illness. In particular, the method of using character vignettes to assess ones perception with an individual with a mental illness has been common.

2.11.1 STUDY ONE

Link, et al. conducted a study using GSS data from 1996 with a sample size of 1,444. Similar to this study, the researchers asked participants an array of questions based on character vignettes. The character vignettes used in this study depicted symptoms of major depressive disorder, schizophrenia, alcohol dependence, cocaine dependence, and "troubled person", whom exhibited symptoms of subclinical problems and worries [48]. Participants were asked questions based on four topics; public recognition of vignettes as representing a mental illness, perceptions of causes, perceptions of dangerousness, and attitudinal social distance [48]. Similar to the current study, to assess the topic of perceptions of dangerousness, participants were asked "in you opinion, how likely is it that [NAME] would do something violent toward other people" [48]. Participants found the character vignette with a cocaine dependency (*Mean*= 3.27, *SD*= 0.74) as most likely to commit a violent act followed by the character vignette with alcohol dependence (*Mean*= 2.83, *SD*= 0.77), schizophrenia (*Mean*= 2.65, *SD*= 0.81), major depression (*Mean*= 2.25, *SD*= 0.85, and trouble

person (*Mean*= 1.84, *SD*= 0.80) [48]. In the current study, participants were asked, "how likely is [X] violent toward other people?" Participants gave the character vignettes with schizophrenia a lower mean score (*Male Character Mean*= 2.23, *SD*= .743 ; *Female Character Mean*= 2.39, *SD*= .793) with a p-value of .024 than the character vignettes with depression (*Male Character Mean*= 2.74, *SD*= .672 ; *Female Character Mean*= 2.88, *SD*= .779) with a p-value of .042. A different response scale (1; very likely 2; somewhat likely 3; not very likely to 4; not at all likely") was used for this question; therefore, a lower mean score indicates a higher likelihood. The findings from the previous study and the current study are similar in that participants reported that the vignette character depicting schizophrenia was more likely to have been perceived to commit acts of violence than the vignette character depicting depression.

Further, to assess the topic of attitudinal social distance, the participants were asked questions based upon on how willing they would be to engage in certain interactions with the characters presented in the vignettes. The questions included; "move next door to the person", "spend an evening socializing with the person", "make friends with the person", "start working closely with the person", and "have the person marry into the family" [48]. Participants gave the highest mean score to the character vignette with a cocaine dependency (*Mean*= 3.20, *SD*= 0.57) followed by the character vignette with an alcohol dependency (*Mean*= 2.83, *SD*= 0.77), schizophrenia (*Mean*= 2.75, *SD*= 0.59), major depression (*Mean*= 2.54, *SD*= 0.54), and troubled person (*Mean*= 2.29, *SD*= 0.44). When compared to the current study, there is an overall similar finding in that participants also gave the character vignettes with schizophrenia a greater mean score on most questions. However, the study did not include the mean scores for the specific questions, therefore, it is difficult to compare the results from both studies based on the participants perceptions based on the specific questions.

2.11.2 STUDY TWO

Another example of a similar study was conducted in 2002 with 68 undergraduate female students and 48 undergraduate male studies [12]. The participants were read vignettes with characters whom displayed symptoms of depression and schizophrenia. Based on the vignettes, the participants were asked six questions which were adapted from a social distance scale that measured the participants level of comfort in regards to the characters presented in the vignettes [12]. The questions asked were, “having a conversation with the person”, “having the person as neighbor”, “collaborating with the person on a project”, “being friends with the person”, “dating the person”, and “having the person take care of my children while I am way” [12]. The overall findings of this study indicated that the participants had stronger negative perceptions of schizophrenia than depression [12].

In regards to the question “having the person take care of my children when I am away”, participants gave the character vignette with depression a mean score of 1.9 (*SD*=0.9) and the character vignette with schizophrenia a mean score of 1.4 (*SD*=0.7) [12]. Out of the six questions, participants gave this question the lowest mean score which indicates the less comfort or greater stigma [12]. This result is similar to the findings of the current study in that participants also gave this question that highest mean score for the character vignette depicting depression (*Male Characters Mean*= 3.43, *SD*= .651 ; *Female Characters Mean*= 3.19, *SD*= .793) with a p-value of .001, which was a significant finding. However, participants, also gave it the highest mean score for the character vignette depicting schizophrenia (*Male Characters Mean*= 3.66, *SD*= .642 ; *Female Characters Mean*= 3.67, *SD*= .606) with a p-value of .974, but this result was not significant. For the current study, a higher mean score indicates less willingness to interact the characters presented in the vignettes. Further, the findings from both studies indicate that the

participants are less willing to have an individual with depression care for their children than an individual with schizophrenia.

2.11.3 STUDY THREE

In 2002, a study was conducted in Brazil to assess public stigma towards individuals with depression [24]. The study interviewed 500 individuals between 18 to 65 years old [24]. The participants were read vignettes with male and female characters depicting symptoms of depression [24]. One of the four topics assessed in this study was the level of perceived dangerousness [24]. To assess the topic of perceived dangerousness participants were asked, “in your opinion, could a person like [John/Mary] commit a violent act against other people?” The results indicated that 58.4% of the participants perceived “John” to be dangerous and 55.2% of participants perceived “Mary” to be dangerous [24]. In the current study, participants were asked a similar question of “how likely is [X] violent toward other people?” The results of the current study indicate that participants also found the vignette with a male character with depression to be more violent than the vignette with a female character with depression (*Male Characters Mean*= 2.74, *SD*= .672 ; *Female Characters Mean*= 2.88, *SD*= .779) with a p-value of .042.

3.0 METHODS

Data for this study was obtained from the 2006 General Social Survey (GSS). The GSS was administered through the National Opinion Research Center (NORC) at the University of Chicago [49]. The GSS was designed to collect data on social change, which combines demographic, behavioral, attitudinal, and topics of special interest questions allowing the GSS to offer data on a wide range of sociological topics and trends and has been in existence since 1972 [49]. Over the years through the data-collection program the overall purpose of the GSS has been to conduct basic scientific research and monitor societal changes not only throughout the United States but also to compare the US to other nations [49].

3.1 PARTICIPANTS

The GSS was administered to adults 18 and over whom live in households throughout the US [50]. In 2006, there were a total of 4,510 individuals who participated in the GSS. A total of 1,019 participants were read the respective character vignettes with symptoms commonly with depression and schizophrenia. The figure below illustrates the process of how this study reached the final sample size of 825 participants.

3.1.1 PARTICIPANT TREE

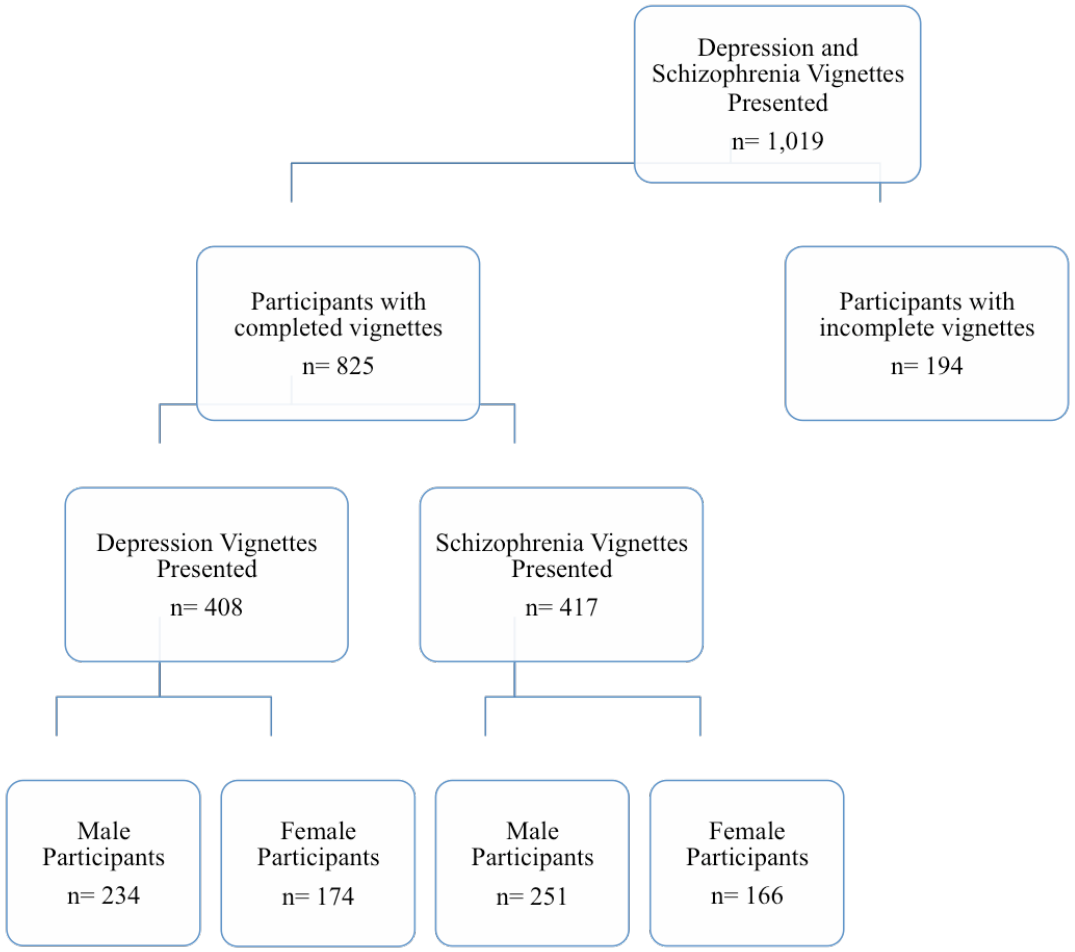

Figure 1. Participant Tree

Out of the 1,019 participants who were read vignettes with symptoms commonly associated with depression and schizophrenia, 825 participants answered the vignette-based questions with no missing items and 194 participants had missing items with a response rate of 80%. Further, 234 male participants and 174 female participants responded to the character vignettes with depression

and 251 male participants and 166 female participants responded to the character vignettes with schizophrenia.

3.2 MEASURES

The GSS was first conducted in 1972 and was the only full-probability, personal-interview survey focused on attitudes and social changes in the US [50]. Since 1994, the GSS has been administered in even numbered years to two samples and as of 2006, the survey became available in English and Spanish [50]. The majority of data collected through the GSS was through face-to-face interviews computer assisted personal interviewing (CAPI) became available in 2002 [50]. In circumstances where a face-to-face interview could not be scheduled, interviews were conducted via telephone [50]. On average, the GSS interview takes 90 minutes to complete [50]. To allow the GSS to assess additional trends, two thirds of each sample receive the same questions [50]. For the purpose of this study, only vignette-based questions on the "willingness to make various social associations with subjects" were selected [51]. The vignette questions were a subset of questions within the category of "mental health". The vignettes depicted male and female characters who exhibited symptoms commonly associated with depression and schizophrenia. Depending on the medium of how the interview was conducted, participants either listened to or were read vignettes and were asked six questions based on their willingness to interact with the characters presented in the vignettes. Participants were randomly assigned to respond to the different types of vignettes. The vignettes included both male and female names and scenarios depicting symptoms commonly associated with depression and schizophrenia. Though the vignettes were suggestive through

symptom descriptions of a particular type of illness, the vignettes did not explicitly include terms such as “depression” and “schizophrenia”.

3.2.1 VIGNETTE DEPICTING DEPRESSION

For the vignette depicting symptoms commonly associated with depression, participants listened to descriptions of a character that presented symptoms of depression. For each vignette [X], a name was given for the character presented that was male or female, White, African American, or Hispanic and their respective education level. Symptom descriptions such as “has been feeling down” and characteristics such as “feels tired when night comes he/she can’t go to sleep” were presented. For the full character vignette depicting depression please refer to Appendix A.

3.2.2 VIGNETTE DEPICTING SCHIZOPHRENIA

For the vignette depicting symptoms commonly associated with schizophrenia, participants listened to descriptions of a character that presented symptoms of schizophrenia. For each vignette [X], a name was given for the character presented who was male or female, White, African American, or Hispanic and their respective education level. Symptom descriptions such as “were convinced that people were spying on him/her” and characteristics such as “retreated to his/her home, eventually spending more of his/her day in his/her room” were presented. For the full character vignette depicting schizophrenia please refer to Appendix B.

3.3 WILLINGNESS QUESTIONS

Based on the two vignettes presented, participants were asked a total of seven questions. Six of the questions were based on the participant's willingness to interact with the character in the vignettes. The six willingness questions included;

1. "To have [X] as a neighbor?"
2. "To spend time socializing with [X]?"
3. "To have [X] care for your children or children you know?"
4. "To make friends with [X]?"
5. "To have [X] start working with you on a job?"
6. "To have [X] marry someone related to you?"

The response scale included the following; 1; definitely willingly 2; probably willing 3; probably unwilling and 4; definitely unwilling. Based on a different response scale than the one used for the previous six willingness questions, an additional question of "how likely is [X] violent toward other people?" was also asked. The response scale for this question included: 1; very likely 2; somewhat likely 3; not very likely 4; not at all likely.

3.4 STATISTICAL ANALYSIS

For this study, all data analysis was performed using the IBM SPSS Statistics Version 22 software. With the use of SPSS, the dataset was cleaned and filtered to select only the variables regarding the "willingness" questions. A mean score, mean difference, and p-values were generated for both

male and female vignettes with depression and schizophrenia using a two- tailed independent t test. A series of two (diagnosis presented in character vignettes) X two (gender of characters) ANOVAs, in which both factors were treated as between subject factors were conducted. To allow for consistency and to account for missing data, the dataset was filtered to eliminate respondents who failed to respond to all individual mental health items for both the depression and schizophrenia vignettes. This filtration reduced the sample size from 1,019 participants to 825 participants. Within this sample, there were 392 (47.5%) male participants and 433 (52.5%) female participants. A lack of social distancing mean, which is abbreviated as "LSD" was created during the analysis, which took the mean of all six willingness items that participants responded to. The lack of social distancing mean did not include the item "how likely is [X] violent toward other people?"

4.0 RESULTS

The purpose of this thesis was to examine the perception of stigma associated with individuals who suffer from a mental illness, in particular, depression and schizophrenia. Stigma was conceptualized through the use of six questions, which represented an individual's level of desire to interact with someone who exhibited symptoms commonly associated with depression and schizophrenia. An additional question based on the perception of violence was also assessed to address stigma. Our hypotheses included that men would be more stigmatized than women and that individuals suffering from depression would be less stigmatized than individuals who suffered from schizophrenia. As a result of this perception, individuals without mental illness are more likely to socially distance themselves from individuals with a mental illness. Further, individuals choose to distance themselves more so from males than females with a mental illness.

4.1 PARTICIPANTS DEMOGRAPHICS

In 2006 a total of 4,510 individuals participated in the GSS, which included 2,565 (56.9%) male and 1,945 (43.1%) female participants. The mean age for all 4,510 participants was 47.14 with an age range of 18 to 89. For the purpose of this study, the sample size only included participants who answered all six of the willingness questions about the depression and schizophrenia vignettes. The final sample size of participants used in the analysis of this study was 825. There were 392 (47.5%) male participants and 433 (52.5%) female participants. The sample size included 626 (75.9%) White participants, 131 (15.9%) African American participants, and 72 (8.7%)

participants of Hispanic origin. The age of the participants ranged from 18 to 89 with a mean age of 46.99.

Table 1. Demographics of participants in final sample

Gender	N	Percent
Male participants	392	47.5
Female participants	433	52.5

Table 2. Demographics of participants in final sample

Race	N	Percent
White	626	75.9
African American	131	15.9
Other	68	8.2
Hispanic Origin	N	Percent
Yes	72	8.7
No	752	91.3

4.2 CHARACTERISTICS OF VIGNETTES

The participants were randomly assigned to respond to a vignette where the character depicted symptoms commonly associated with depression or to a vignette where the character depicted symptoms commonly associated with schizophrenia. There were 408 (49.5%) vignettes given with characteristics commonly associated with depression and 417 (50.5%) vignettes with

characteristics commonly associated with schizophrenia. There were 397 (48.1%) vignettes given male characters and 428 (51.9%) vignettes with female characters. Lastly, 423 (51.3%) vignettes were given with White characters and 402 (48.7%) vignettes were given with African American characters.

Table 3. Characteristics of vignettes

Vignette Type	N	Percent
Characters with depression	408	49.5
Characters with schizophrenia	417	50.5
Gender of vignette	N	Percent
Male Character	397	48.1
Female Character	428	51.9
Race of vignette	N	Percent
White Character	423	51.3
African American Character	402	48.7

4.3 DEPRESSION VIGNETTE MEAN SCORES

The table below includes the mean scores, the mean difference between genders, and the p-values of how participants responded to the six willingness questions and the additional question based on the perception of violence.

Table 4. Mean scores of six willingness items for character vignette with depression

Willingness Items	Male	Standard Deviation	Female	Standard Deviation	Mean Difference	Sig. (2-tailed)
LSD Mean	2.44	.528	2.25	.557	.182	**.001**
Neighbor	1.98	.695	1.82	.696	.162	**.019**
Socialize	2.07	.722	1.92	.679	.157	**.024**
Children	3.43	.651	3.19	.793	.240	**.001**
Friends	1.97	.669	1.85	.674	.118	.078
Coworker	2.29	.801	2.19	.839	.108	.185
Marry Relative	2.90	.821	2.59	.875	.309	**.000**
Violence	2.74	.672	2.88	.779	.147	**.042**

Note: The LSD mean is the average of the responses of the six willingness questions. The bolded values represent a p-value of significance.

The table above illustrates that six of the eight results were significant because the p-values were less than 0.05. Of the six results, which were, significant, the question "to have [X] marry someone related to you?" had the most significant p-value of .000 and the question "how likely is [X] violent toward other people?" had the least significant p-value of .042. Two of the results were not significant since the p-values were more than 0.05.

4.3.1 MEAN DIFFERENCES AMONG DEPRESSION VIGNETTE

In response to the vignettes with symptoms commonly associated with depression, participants gave the vignettes with male characters a greater mean score than the vignettes with female characters on four of the six willingness items. In particular, the item "would have [X] marry someone related to you" had the largest mean difference between the male and female characters (*Male Characters Mean*= 2.90, *SD*=.821 ; *Female Characters Mean*= 2.59, *SD*= .875) with a mean

difference of .309 and p-value of .000. The second largest mean difference was for the item "would have [X] care for your children" (*Male Characters Mean*= 3.43, *SD*= .651 ; *Female Characters Mean*= 3.19, *SD*= .793) with a mean difference of .240 and p-value of .001.

4.4 SCHIZOPHRENIA VIGNETTE MEAN SCORES

The table below includes the mean scores, the mean difference between genders, and the p-values of how participants responded to the six willingness questions and the additional question based on the perception of violence.

Table 5. Mean scores of six willingness items for character vignette with schizophrenia

Willingness Items	Male	Standard Deviation	Female	Standard Deviation	Mean Difference	Sig. (2-tailed)
LSD Mean	2.79	.574	2.56	.599	.225	**.000**
Neighbor	2.32	.809	2.14	.789	.178	**.024**
Socialize	2.45	.822	2.19	.817	.259	**.001**
Children	3.66	.642	3.67	.606	.002	.974
Friends	2.27	.810	2.05	.765	.220	**.005**
Coworker	2.70	.878	2.48	.913	.223	**.012**
Marry Relative	3.35	.757	2.88	.922	.473	**.000**
Violence	2.23	.743	2.39	.706	.160	**.024**

Note: The LSD mean is the average of the responses of the six willingness questions. The bolded values represent a p-value of significance.

The table above illustrates that seven of the eight results were significant because the p-values were less than 0.05. Of the seven results, which were, significant, the questions "to have [X] marry someone related to you?" and the lack of social distancing mean (LSD mean) had the

most significant p-values of .000. The question “to have [X] care for your children or children you know?” had a p-value of .974, which was not significant since it was less than 0.05.

4.4.1 MEAN DIFFERENCES AMONG SCHIZOPHRENIA VIGNETTE

In response to the vignettes with symptoms commonly associated with schizophrenia, participants gave the vignettes with a male character a higher mean score than the vignettes with a female character on five of the six willingness items. The largest mean difference between the male and female characters was for the item “would have [X] marry someone related to you” (*Male Characters Mean*= 3.35, *SD*= .757 ; *Female Characters Mean*= 2.88, *SD*= .922). This item had a mean difference of .473 and a corresponding p-value of .000. The mean difference for this item was approximately twice as high than the next greatest mean difference. The second highest mean difference between the male and female vignette characters was for the item “would spend time socializing with [X]” (*Male Characters Mean*= 2.45, *SD*= .822 ; *Female Characters Mean*= 2.19, *SD*= .817). This item had a mean difference of .259 and a p-value of .001.

The lowest mean difference between the male and female vignette characters was attributed to the item “how likely is [X] violent towards people” by participants (*Male Characters Mean*= 2.23, *SD*= .743 ; *Female Characters Mean*= 2.39, *SD*= .706). The mean difference for this item was .160 with a p-value of .024.

4.5 QUESTION BASED ON PERCEPTION OF VIOLENCE

In response to the vignettes with symptoms commonly associated with depression, participants gave the vignettes with a male character a lower mean score than the vignettes with a female character for the item "how likely is [X] violent toward other people" (*Male Characters Mean*= 2.74, *SD*= .672 ; *Female Characters Mean*= 2.88, *SD*= .779). The mean difference for this item was .147 with a p-value of .042. The response scale for this question was, 1; very likely 2; somewhat likely 3; not very likely to 4; not at all likely. In regards to the character vignettes with schizophrenia, participants also gave the male character a lower mean score than the vignettes with a female character (*Male Characters Mean*= 2.23, *SD*= .743 ; *Female Characters Mean*= 2.39, *SD*= .706). The difference for this question was .160 with a corresponding p-value of .024.

4.6 TWO-WAY ANALYSIS OF VARIANCE (ANOVA)

The table below includes the results of a series of ANOVA tests, which were performed on the six willingness questions and the question based on the perception violence. To assess whether participants felt more social distance from the characters presented in the vignettes depicting depression or schizophrenia, and whether more social distance was felt for the male or female characters presented in the vignettes, a series of two (diagnosis presented in character vignettes) X two (gender of characters) ANOVAs, in which both factors were treated as between subject factors were conducted.

Table 6. Two- way analysis of variance (ANOVA)

	Depression Character Vignette		Schizophrenia Character Vignette							
	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)	Main Effect (Diagnosis)	P-value	Main Effect (Gender)	P-value	Interaction	P-value
LSD	2.44 (.528)	2.25 (.557)	2.79 (.574)	2.56 (.599)	F (1, 821)=70.26	**0.000**	F (1, 821)=26.60	**0.000**	F (1, 821)=.295	0.587
Neighbor	1.98 (.695)	1.82 (.696)	2.32 (.809)	2.14 (.789)	F (1,821)=39.36	**0.000**	F (1, 821)=10.55	**0.001**	F (1, 821)=.023	0.879
Socialize	2.07 (.722)	1.92 (.679)	2.45 (.822)	2.19 (.817)	F (1, 821)=37.60	**0.000**	F (1, 821)=15.25	**0.000**	F (1, 821)=.918	0.338
Children	3.43 (.651)	3.19 (.793)	3.66 (.642)	3.67 (.606)	F (1,821)=56.14	**0.000**	F (1, 821)=6.39	**0.012**	F (1, 821)=6.60	**0.010**
Friends	1.97 (.669)	1.85 (.674)	2.27 (.810)	2.05 (.765)	F (1, 821)=24.47	**0.000**	F (1, 821)=10.97	**0.001**	F (1, 821)=1.01	0.315
Coworker	2.29 (.801)	2.19 (.839)	2.70 (.878)	2.48 (.913)	F (1, 821)=34.68	**0.000**	F (1, 821)=7.58	**0.006**	F (1, 821)=.914	0.339
Marry Relative	2.90 (.821)	2.59 (.875)	3.35 (.757)	2.88 (.922)	F (1, 821)=39.73	**0.000**	F (1, 821)=43.56	**0.000**	F (1, 821)=1.91	0.166
Violence	2.74 (.672)	2.88 (.779)	2.23 (.743)	2.39 (.706)	F (1, 821)=97.94	**0.000**	F (1, 821)=9.23	**0.002**	F (1, 821)=.017	0.895

Note: The LSD mean is the average of the responses of the six willingness questions. The bolded values represent a p-value of significance.

The table above illustrates that there was a main effect of diagnosis presented in the character vignettes and a main effect of the gender of characters for the six willingness items, the question based on violence, and also the overall social distance which was calculated by the LSD mean. There was only once instance where the interaction was significant with a p-value of 0.010 for the question “to have [X] care for your children or children you know”.

4.6.1 MAIN EFFECT OF DIAGNOSIS

There was a main effect of “diagnosis” presented in response to the vignettes with symptoms commonly associated with depression and schizophrenia for all of the six willingness items, the question based on violence, and also the overall social distance, which was calculated as the LSD. There was a main effect of diagnosis for the item assessing the overall social distance (LSD), F (1, 821)= 70.26, p-value of .000. The mean of schizophrenia (M= 2.60, SD= .028) was higher than the mean of depression (M= 2.34, SD= .028). For the question how willing are you “to have [X] as a neighbor” there was a main effect of diagnosis, F (1, 821)= 39.36, p-value of .000. The mean of schizophrenia (M= 2.27, SD= .037) was higher than the mean of depression (M= 1.90, SD= .037). For the question how willing are you “to have [X] care for your children or children you know” there was a main effect of diagnosis, F (1, 821)= 56.14, p-value of .000. The mean of schizophrenia (M= 3.66, SD= .033) was higher than the mean of depression (M= 3.31, SD= .033).

4.6.2 MAIN EFFECT OF GENDER

There was a main effect of gender presented in response to the vignettes with symptoms commonly associated with depression and schizophrenia for all of the six willingness items, the question

based on violence, and also the overall social distance, which was calculated as the LSD. There was a main effect of gender of the vignette characters for the item assessing the overall social distance (LSD), *F* (1, 821)= 26.60, p-value of .000. The mean of the male character (*M*= 2.61, *SD*= .028) was higher than the mean of the female character (*M*= 2.43, *SD*= .027). For the question how willing are you "to have [X] as a neighbor" there was a main effect of gender, *F* (1, 821)= 10.55, p-value of .001. The mean of the male character (*M*= 2.14, *SD*= .038) was higher than the mean of the female character (*M*= 1.97, *SD*= .036). For the question how willing are you "to have [X] care for your children or children you know" there was a main effect of gender, F (1, 821)= 6.39, p-value of .012. The mean of the male character (*M*= 3.54, *SD*= .034) was higher than the mean of the female character (*M*= 3.42, *SD*= .033).

4.6.3 INTERACTION

The only significant interaction was for the question regarding how willing are you "to have [X] care for your children or children you know" with p-value of 0.010. The interaction of the means of the character vignette with depression and male characters (*M*= 3.43, *SD*= .047), the character vignette with depression and female characters (*M*= 3.19, *SD*= .047), the character vignette with schizophrenia and male characters (*M*= 3.66, *SD*= .049), and the character vignette with schizophrenia and female characters (*M*= 3.67, *SD*= .045) were statistically different.

5.0 DISCUSSION

The purpose of this study was to examine perception of stigma associated with individuals who suffer from a mental illness, in particular, depression and schizophrenia. Stigma, for the purpose of this study was conceptualized through the sense of social distance. The questions examined were in regards to ones' willingness to interact with individuals who exhibited symptoms commonly associated with depression or schizophrenia. Based on the responses, the study examined the gender differences that exist in regards to the participants' willingness to interact with the characters presented in the vignettes. Overall, vignettes with male characters received higher mean scores than vignettes with female characters across both mental illnesses on reported desire to interact. A higher mean score indicated a greater reluctance to interact with the characters depicted. Thus, one could interpret this finding as that males with mental illness may be more likely to be stigmatized and experience social distancing.

5.1 DEPRESSION VERSUS SCHIZOPHRENIA

Overall, the vignettes depicting characters with symptoms commonly associated with schizophrenia generally had a higher mean score for all items and both genders than the vignettes depicting characters with symptoms commonly associated with depression. Further, when the mean differences between genders across both mental illnesses are compared, the mean difference between the male and female characters were generally greater among the vignettes depicting a character with symptoms commonly associated with schizophrenia than a vignette depicting a

character with symptoms commonly associated with depression. This finding may be aligned with the notion that schizophrenia is a type of mental illness that faces more stigmatization than depression [12, 21, 26].

5.2 GREATEST GENDER INEQUALITIES

Among the vignette with a character depicting symptoms commonly associated with depression, the question "would you have [X] marry someone related to you" resulted in the greatest mean difference between genders. Participants gave the male character vignette a mean score of 2.90 (*SD*= .821) and gave the female character a mean score of 2.59 (*SD*= .875) for the same item with a mean difference of .309. Out of the six willingness items, this question had the most significant p- value of .000. The second largest mean difference was for the item "would you have [X] care for your children or children you know. The vignette depicting a male character received a mean score of 3.43 (*SD*= .651) and the vignette depicting a female character received a score of 3.19 (*SD*= .793). This item received the second most significant p-value of .001. For both of these questions, the male characters where given a higher mean score. Out of the six willingness questions the participants were asked, these two are the most "personal" in terms of involving ones family. This finding may indicate that individuals are more likely to interact with individuals with a mental illness on a social level, but are less likely to have them close to their families or loved ones.

In regards to the vignette with characters depicting symptoms commonly associated with schizophrenia, the gender inequalities were strongest among the item "would you have [X] marry someone related to you". Participants gave the male character a mean score of 3.35 (*SD*= .757)

and the female character a mean score of 2.88 (*SD*= .922) with a mean difference of .473. Out of the six willingness items, this question had the most significant p-value of .000. The lack of social distancing mean (LSD mean) also had a p-value of .000 (*Male Characters Mean*= 2.79, *SD*= .574 ; *Female Characters Mean*= 2.56, *SD*= .599). Similar to the results for the vignette characters depicting symptoms commonly associated with depression, this finding may be indicative to participants feeling less willing to have an individual with schizophrenia close to their family.

5.3 QUESTION BASED ON CHILDREN

The question "would you have [X] care for your children or children you know" generated a few interesting findings. For the character vignette depicting symptoms commonly associated with depression this resulted in the second largest mean difference between genders across all of the items (*Male Characters Mean*= 3.43, *SD*= .651 ; *Female Characters Mean*= 3.19, *SD*= .793). This item had a p-value of .001, which was the second greatest p-value of significance. This is also the highest mean score for both genders across all items. For the character vignette with symptoms commonly associated with schizophrenia, this question also leads to the highest mean scores for the male and female characters (*Male Characters Mean*= 3.66, *SD*= .642 ; *Female Characters Mean*= 3.67, *SD*= .606), but it resulted in the lowest mean difference between genders. The mean difference for this item was .002, which was considerably lower than all of the other mean differences for this specific vignette. However, this question was the only item that had a p-value of .974, causing this finding not to be statistically significant.

5.4 ANOVA

The seven social distance factors and the overall social distance as calculated by the LSD showed similar results, shown in Table 6. Social distance was always greater for characters depicting in the vignettes with schizophrenia than for the characters depicted in the vignettes with depression. This result was also almost always greater for the male vignette character versus the female vignette characters. In one exception, social distance was higher for the question, "to have [X] care for your children or children you know?" which measured the comfort with caring for children for both the male characters and female characters for the vignettes depicting schizophrenia. These means, which were 3.66 (*SD*=. 642) for the male character and 3.67 (*SD*=.606) for the female characters, are close to the maximum score of the scale, which is 4.0. These high means are also reflected in the only significant interaction in the group ANOVAs, which is also seen for comfort with childcare.

5.5 SIMILAR STUDIES

The results from this study were similar to those found in the three previously mentioned studies. In the study by Link et al. or study one, participants indicated that based on the vignettes, the vignettes that presented characters with symptoms commonly associated with schizophrenia were more likely to be violent towards other people than the vignettes that presented characters with symptoms commonly associated with depression. Additionally, when the topic of attitudinal social distance was assessed, participants gave the vignettes with characters depicting symptoms of

schizophrenia a higher mean score, which indicted greater social distance than the vignettes with characters depicting symptoms of depression.

Study two, which was conducted with undergraduate students also reported similar results. This study assessed questions adapted from a social distance scale, which assessed the participant's level of comfort in regards to the characters presented in vignettes. Overall, the results from this study indicated that participants reported a stronger negative perception of the characters presented with symptoms of schizophrenia than the characters presented with symptoms of depression.

Study three which was conducted in Brazil assessed public stigma, in particular, the level of perceived dangerousness towards individuals with depression. Participants reported that they found the male character presented in the vignettes with symptoms of depression to be more dangerous than the female character presented in the vignettes with symptoms of depression.

5.6 LIMITATIONS

There were several limitations to this study. The analysis conducted in this study is secondary since the data was taken from the GSS. Additionally, only selected questions were analyzed and participants who did not respond to all of the selected questions were not included, which limited the sample size. The vignettes presented a hypothetical situation and may not be fully indicative of symptoms of depression and schizophrenia. Also, the term "depression" and "schizophrenia" were not explicitly stated when the participants were read the vignettes. This may introduce bias since it cannot be assumed that the participants are able to correctly associate the symptoms with the mental illness that was intended to represent. The vignettes were also brief and presented a

minimal number of symptoms. If longer vignettes with more complex symptoms were presented, this may have changed the perceptions of the participants.

When conducting the survey, the issue of social desirability response bias arises, specifically for surveys that have been conducted through person to person interviewing [52]. Social desirability refers to when participants may respond to questions in a more favorable manner especially when asked about socially embarrassing attitudes, beliefs, and behaviors [52, 53]. For this study, participants may have felt more inclined to respond more desirably when asked if they are willing to interact with the characters presented in the vignettes. Thus, the results may actually underestimate the actual willingness of the participants to socially interact, or desire to work with individuals exhibiting behaviors described in the vignettes.

Further, this study only selected six questions based on the willingness to interact with the characters presented in the vignettes and one additional question based on violence. The seven questions may not be fully representative of stigma and perceived violence. Also, this study focused on the participants responses based on gender of the character presented in the vignette. The participant's gender, age, race, and level of education were not analyzed in terms of how they responded. If demographics of the participants were analyzed, this may have given a better understanding if gender, age, race, and level of education affected an individual's perception of individuals with mental illness.

5.7 FUTURE DIRECTIONS

There were three areas of future study that may be beneficial to this area of research. These are the format of the vignettes, the limited number of questions assessed and the issue of social desirability response bias.

The first area for which future research that would be beneficial had to do with the formats of the vignettes. The vignettes used in this study were extremely brief and not very descriptive. Vignettes that were more descriptive of the respective illnesses with more symptom descriptions may allow for the participant to fully understand what illness the vignette is representing. It is important to note that the GSS was not designed to assess participant's perceptions of individuals with mental health. Data from a survey that focuses specifically on mental health would allow for a more comprehensive analysis of mental health stigma. Further, there were only a total of six questions assessed in this study that represented an individual's willingness to interact with the characters presented in the vignettes. Additional questions would allow for a better assessment of why or why not individuals would choose to interact with the characters presented in the vignette Further, questions focused on "why" individuals feel the need to socially distance themselves from the characters presented would provide insight on how to dispel the stigma associated with mental illnesses.

Lastly, the issue of social desirability response bias needs to be considered. The results of the ANOVAs indicated that the only interaction of significance was seen for the question "to have [X] care for your children or children you know?". This result may imply that participants were responding more favorable to the other five willingness questions because the other questions were assessing interactions of lower risk. Ways to try to control for this bias that have been noted in the literature may be to conduct these survey via telephone or through self-administered questionnaires

[52, 53]. Conducting interviews by telephone may allow individuals to feel more comfortable to respond honestly when there is more “social distance” between themselves and the interviewer [52]. Further, though self-administered questionnaires may lead to lower response rates, this survey technique is more likely to reduce social desirability response bias as participants may feel inclined to answer more openly since there is a higher level of anonymity [53].

The findings of this study suggest that efforts need to be made to reduce the stigma and perception of fear associated with individuals with a severe mental illness. Though this study focused on perceptions only towards individuals who exhibited symptoms commonly associated with depression and schizophrenia, the overall findings of this study can be applied to other mental illnesses as well. In general, the study found two key points; schizophrenia is more stigmatized than depression and males with a mental illness are more stigmatized than females with a mental illness. It is of public health significance to reduce the perception of stigma and fear associated with individuals with a mental illness. As it is, individuals with a mental illness are coping with symptoms of their illness and the added stigma is an extra burden in their life. The fear of stigma associated with mental illness may also cause individuals to delay or not seek proper mental health treatment. It is evident throughout the literature that individuals with a mental illness are less likely to be given the same opportunities as individuals without a mental illness.

Overall, though schizophrenia effects a relatively small portion of the US population, there is a strong level of stigma associated with the illness based on the literature and based on the results of this current study. Efforts by mental health professionals and public health professionals need to focus on reducing the strong level of stigma associate with the illness.

6.0 CONCLUSION

The purpose of this study was to examine the willingness of individuals to interact with male and female characters presented in vignettes describing symptoms commonly associated with depression or schizophrenia. Further, the study examined the perception of violence individuals attribute to males and females who exhibit symptoms commonly associated with depression or schizophrenia. Participants were asked a total of six questions, which examined an individual's level of willingness to interact with the characters presented in the vignettes. An additional question based on how likely an individual believes the characters presented in the vignettes would exhibit acts of violence.

Overall, the vignettes with male characters received higher mean scores than vignettes with female characters across both sets of symptoms. A higher mean score indicated a greater reluctance to interact with the characters depicted. Further, the character vignettes with schizophrenia symptoms generally received a higher mean score across all items than the scores of the character vignettes with symptoms of depression. One could interpret this finding, as individuals are more likely to stigmatize males who exhibit symptoms commonly associated with depression and schizophrenia than females who exhibit symptoms commonly associated with depression and schizophrenia.

APPENDIX A

DEPRESSION CHARACTER VIGNETTE

[John/Juan/Mary/Maria] is a [White/African American/Hispanic] [man/woman] with an [eight grade/high school/college] education. For the past two weeks [John/Juan/Mary/Maria] has been feeling really down. He/She wakes up in the morning with a flat heavy feeling that sticks with him/her all day long. He/She isn't enjoying things the way he/she normally would. In fact nothing gives him/her pleasure. Even when good things happen, they don't seem to make [John/Juan/Mary/Maria] happy. He/She pushed on through his/her days, but it is really hard. The smallest tasks are difficult to accomplish. He/She finds it hard to concentrate on anything. He/She feels out of energy and out of steam. And even though [John/Juan/Mary/Maria] feels tired, when night comes he/she can't go to sleep. [John/Juan/Mary/Maria] feels pretty worthless, and very discouraged. [John's/Juan's/Mary's/Maria's] family has noticed that he/she hasn't been himself/herself for about the last month and that he/she has pulled away from them. [John/Juan/Mary/Maria] just doesn't feel like talking.

APPENDIX B

SCHIZOPHRENIA CHARACTER VIGNETTE

[John/Juan/Mary/Maria] is a [White/African American/Hispanic] [man/woman] with an [eight grade/high school/college] education. Up until a year ago, life was pretty okay for [John/Juan/Mary/Maria]. But then, things started to change. He/She thought that people around him/her were making disapproving comments, and talking behind his/her back. [John/Juan/Mary/Maria] was convinced that people were spying on him/her and that they could hear what he/she was thinking. [John/Juan/Mary/Maria] lost his/her drive to participate in his/her usual work and family activities and retreated to his/her home, eventually spending more of his/her day in his/her room. [John/Juan/Mary/Maria] was hearing voices even though no one else was around. These voices told him/her what to do and what to think. He/She has been living this way for six months.

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