

ABSTRACT

Andrea M. K. Maxwell. THE RELATIONSHIP BETWEEN CAUSAL BELIEFS AND STIGMA OF MENTAL ILLNESS. (Under the direction of Susan McCammon, Ph.D.). Department of Psychology, July 2010.

This study extended previous research by Read and Harré (2001) and Dietrich and colleagues (2004) examining the relation between causality of mental illness and desire for social distance, as well as, the relationship between type of mental disorder and desires for social distance. Students read an information sheet describing mental illness as either biological or psychosocial in nature. Students then answered questions regarding social distance they would desire if they were in the presence of a person having either symptoms of schizophrenia or depression. Unlike previous research, no relationship was found between causality and desire for social distance. However, a relationship was found between desire for social distance and type of disorder described, with participants desiring greater social distance from the person described as having symptoms of schizophrenia. These results indicate that national campaigns to educate the public about a biological causality of mental illness in order to reduce stigma may not be an effective approach.

THE RELATIONSHIP BETWEEN CAUSAL BELIEFS
AND STIGMA OF MENTAL ILLNESS

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THE RELATIONSHIP BETWEEN CAUSAL BELIEFS AND
STIGMA OF MENTAL ILLNESS

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DEDICATION

This thesis is for my loving parents and ever-patient husband.
They have always supported and encouraged me in all of my goals and dreams.
This is also for C.F., K.L.C., and Del, my cheerleaders from the sidelines.

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CHAPTER I

Literature Review

Mental illness is pervasive in the United States, affecting 26% of Americans 18 years or older (National Institute of Mental Health, 2009). According to the National Institute of Mental Health (NIMH), one in four American adults will meet the criteria for a mental disorder in a given year, or approximately 57 million people nationwide, and 6% will be diagnosed with a serious mental illness (NIMH, 2009). Mental illness can cause many detrimental events in a person's life, especially if left untreated. Possible events include unemployment, substance abuse, homelessness, incarceration, suicide, and disability (National Alliance on Mental Illness, 2010). In fact, mental disorders are the leading cause of disability in the United States for people ages 15 to 44 years (NIMH, 2009). According to the National Alliance on Mental Illness (NAMI), treatment for mental illness is available, but the United States is left with an economic cost of over \$100 billion due to untreated mental illness (NAMI, 2010). If treatment is available, why do people not seek treatment for mental illness? Research, especially within the last two decades, has investigated this question.

Kessler and colleagues (1996) reported on results of structured diagnostic interviews with 8,098 respondents from a national stratified probability sample of persons ages 15-54, which included students living in campus group housing; of the 5877 who met criteria for lifetime diagnoses, less than half sought treatment. Blanco and colleagues (2008) found nearly half of the college-aged students they surveyed had symptoms of a mental disorder within the past year. However, less than 25% of their sample of over 5000 college-aged participants who had symptoms of a mental disorder sought treatment in the year prior to their study (Blanco et al., 2008). In their StigmaBusters brochure, NAMI reported that less than one-third of adults and

one-half of children with a mental disorder received mental health services, and those with diagnoses often waited years after the onset of symptoms before seeking treatment services (NAMI, 2010). While there are likely several reasons people do not seek mental health care, research has recently recognized stigma as a barrier to treatment. Corrigan (2004) stated that people do not seek treatment to avoid the stigma toward mental illness. While the word stigma is commonly used today, there is no universally accepted definition.

What is a Stigma?

Link and Phelan (2001) stated that because stigma is a multifaceted and complex concept, the definition of stigma varies throughout the literature. While different researchers have used their own definitions, many refer to Goffman's definition of stigma as an "attribute that is deeply discrediting" and reduces the person "from a whole and usual person to a tainted, discounted one" (Goffman, 1963, p. 3). In their review, Link and Phelan (2001) used a combination of their definition with Goffman's. They defined stigma as an attribute and a stereotype that link a person to undesirable characteristics, leading to discrimination against that person (Link & Phelan, 2001).

Social stigmas exist for many different groups and characteristics, and one such social stigma is the stigma toward mental illness, which is especially damaging to people with this label. As someone who has experienced the stigma of mental illness, Jamison (2006) defined stigmas as negative attitudes that govern thoughts, behaviors, access to healthcare, and government policies. Today, stigmatizing attitudes appear in the media as if they were factual information, and Jamison stated that if the same things were said about any other minority, the stigmas would not be as tolerated. She explained that people who have mental illnesses not only deal with public stigma, but stigmatize themselves based on the way others perceive and act

around them. Based on these differences, stigma can be divided into two different types: public and self, both of which have negative effects on people with mental illnesses. Public stigmas occur when someone other than the person with the disorder endorses stereotypes about mental illness and then discriminates against the individual as a result. Thus, these public stigmas can prevent individuals with mental illness from obtaining jobs and adequate housing, and can lead to inappropriate jail time (Corrigan, 2004). Self-stigmas occur when a person internalizes the stigmas endorsed by the public. These self-stigmas can lead to diminished self-esteem, self-efficacy, confidence in one's future, and to feelings of shame (Corrigan, 2004; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). In addition, stigma against individuals with mental illnesses has been documented worldwide.

In a study by Thornicroft, Brohan, Rose, Sartorius, and Leese (2009), people diagnosed with schizophrenia in 27 countries were interviewed regarding anticipated and experienced stigma. Their results indicated that people with schizophrenia across all 27 countries reported anticipated discrimination and experienced actual acts of discrimination that affected their ability to make and maintain friendships and relationships, find employment, and seek education and work-related training (Thornicroft et al., 2009). This research indicated that stigmas of mental illness are not only pervasive, but also interrupt social and vocational functioning of people with mental health diagnoses worldwide. Martin, Pescosolido, and Tuch (2000) examined 1996 General Social Survey data, which is a nationally representative survey conducted by the National Opinion Research Center (NORC) every few years, and asks general and social attitude questions to track American opinions over time (NORC, 2010). Using these data, Martin and colleagues found that 38% of people were not willing to be friends with someone with a mental illness, 58% were unwilling to be coworkers with someone with a mental illness, and 68% were

not willing to have someone with a mental illness marry a family member. They found that 48% of respondents did not want to interact with someone described as having schizophrenia, and 37% wanted to avoid interactions with someone described as having symptoms of major depression (Martin et al., 2000).

The fear of stigma has also been found to influence behavior of college students with mental illness. Quinn, Kahng, and Crocker (2004) conducted a study of college students, some of whom had a history of mental illness. Their research examined whether having to report a history of mental illness would influence college students' performance on a standardized achievement test compared to those who had the option of not reporting mental illness. Results indicated that students who had a history of mental illness and had to respond yes or no to questions about their history of mental illness performed significantly worse than students who were given the option to leave such questions unanswered (Quinn et al., 2004). These examples, along with the previous definitions, may help explain what the word stigma means, and that stigmas are far-reaching, but the definitions do not clarify how stigma occurs.

According to Link and Phelan (2001), stigmas occur when individuals begin to notice differences in one another that, at the time, matter socially. Next, these differences become labels or stereotypes and are deemed to be negative attributes about a person. Individuals then begin to separate the stigmatized group from themselves, creating in- and out-groups, us versus them. This separation makes it easier for the in-group to apply more negative labels to the out-group because the outsiders are seen as bad and different from themselves (Link & Phelan, 2001). The out-group experiences status loss and discrimination, which includes disadvantages related to income, education, psychological well-being, housing, medical treatment, and overall health

(Link & Phelan, 2001). However, before these stigmas occur, they are formed through assumptions.

Corrigan (2004) explained that stigmas are created through a four-step social-cognitive process. First, people gather cues about a social group based on symptoms, social skill deficits, physical appearances, and labels (Corrigan, 2004). Also, exposure to media, such as television and movies, as well as media messages, provides many cues to the general public regarding social groups. Second, stereotypes are formed based on these cues and applied to entire groups. Third, people become prejudiced by believing negative stereotypes about the group. Lastly, prejudice leads to discriminatory behaviors against the stereotyped group (Corrigan, 2004). Therefore, stigmas are formed based on assumptions about particular groups of people that come from social cues, and those beliefs then lead to prejudice and discrimination. Knowing that stigmas occur has led researchers to study the effects of stigma, particularly stigma of mental illnesses.

Stigma as a Barrier to Treatment

The Center for Mental Health Services (CMHS) is a division of the United States Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, and was developed to provide information for those using mental health services, the general public, and policy makers, as well as promote mental health and mental illness prevention (CMHS, 2003). The CMHS stated that stigma toward mental health disorders is a barrier that discourages people, their families, and their friends from seeking mental health services, and can cause families and friends to turn on individuals with mental illness (CMHS, 2003). It is the fear of stigma and discrimination that prevent those who need treatment from seeking it. In their review on stigma, Corrigan and Kleinlein (2005) explained that people with

symptoms of mental illness avoided treatment in order to prevent being identified with already stigmatized groups. Wrigley, Jackson, Judd, and Komiti (2005) surveyed the general public and found that the most frequently given reason people had for not seeking treatment for their mental illness symptoms was embarrassment regarding the possibility of having a mental illness. The CMHS claimed in their *Anti-Stigma: Do You Know The Facts* campaign that regardless of experiencing symptoms of a mental illness, many people do not want to be labeled as a mental patient, even to the extent that they would rather admit to committing a crime or being in jail than tell an employer about spending time in a psychiatric hospital (CMHS, 2003). Not only are people strongly affected by stigma, but stigma may also govern how parents choose to care for their children.

The effects of stigma on seeking treatment extend to childhood. In a study which used 1393 noninstitutionalized adult respondents from the 2002 General Social Survey, Pescosolido, Perry, Martin, McLeod, and Jensen (2007) found that nearly half of participants reported that if a child received mental health treatment, the child would become an outsider at school, as well as suffer in adulthood. Respondents also stated that a child receiving treatment would make the parent feel like a failure (Pescosolido et al., 2007).

Stigma toward mental illness also influences young adults. Using a United States college student sample, Eisenberg, Downs, Goldberstein, and Zivin (2009) found that personal, or self-stigma, was significantly related to lower help-seeking behaviors such as seeking therapy, medication, or other forms of support. While results indicated that perceived, or public stigma, was not significantly related to help-seeking behaviors in the participants, nearly all participants who reported self-stigma also reported public stigma (Eisenberg et al., 2009). Eisenberg and colleagues concluded these results support the idea presented by Corrigan, Watson, and Barr

(2006), which stated that public stigma develops first, and self-stigma develops as a result. Thus, Eisenburg and colleagues concluded that reducing public stigma within the general public may lead to a reduction in self-stigma for individuals and increase help-seeking behaviors.

While these social effects are poignant, the effects of stigma on everyday living are also detrimental. Link and Phelan (2006) explained that the health consequences of stigmas are far reaching, and go beyond reluctance to seek out treatment for mental illness. Initially, stigma can affect a person's access to employment, housing, and medical care. These effects on everyday life situations can lead to chronic stress, in addition to the stress of being part of a stigmatized group. The combination of these stressors can negatively affect the mental illness the person has, as well as create new health problems (Link & Phelan, 2006). All of these factors combine to further reduce the likelihood that a person with a mental illness will seek treatment, and the pattern of stress and suffering becomes cyclical. Knowing this, researchers and mental health organizations have begun to address the need to combat stigma of mental illness.

Efforts to End Stigma

Rüsch, Angermeyer, and Corrigan (2005) described three different ways to reduce stigma: protest, contact, and education. Protest has been shown to be useful in reducing negative public images of mental illness (Wahl, 1995). Contact with people with mental illness has been shown to reduce stigma, and may best be used in combination with education strategies (Rüsch et al., 2005). Education provides information to contradict stereotypes of mental illness. However, the content of these programs is important and may directly affect the program's success or failure at reducing stigma (Rüsch et al., 2005). Each of these three strategies for reducing stigma have been researched or utilized within the past decade to address the concerns surrounding mental health and stigmas.

Protest. Rüsç and colleagues (2005) described an example of protest used in Germany to reduce stigma of mental illness. An organization called BASTA – the alliance for mentally ill people, uses email messages to notify group members about stigmatizing media advertisements. Approximately 80% of all the cases of stigmatization BASTA has acted against have been successfully stopped (Rüsç et al., 2005). Therefore, protest may be successful in reducing the amount of stigmatizing images of the mentally ill in the media, but Rüsç and colleagues suggested that protest may not be successful in changing people's attitudes and prejudices. Instead, they suggested adding contact or educational components to supplement protest efforts.

Contact. Several studies have shown that contact with persons with mental illness reduces stigma (Link & Cullen, 1986; Read & Law, 1999; Reinke, Corrigan, Leonhard, Lundin, & Kubiak, 2004; Wallach, 2004). However, not all contact may be equivalent. Wallach (2004) reported that brief exposure to a person with a mental illness sometimes causes stereotypes to worsen, and prolonged contact may be important in reducing stigma. For example, type of interaction or seriousness of psychotic symptoms may be as important as length of exposure. In their study, Lauber, Anthony, Ajdacic-Gross, and Rössler (2004) found that psychiatrists' attitudes toward persons with mental illness did not differ from the attitudes of the general public. Both samples reported the same desires for social distance, indicating that frequent exposure to patients alone is not enough to reduce stigma (Lauber et al., 2004). This research also indicated that psychiatrists may be unaware of their attitudes towards their patients, and because of this, may not be best suited to lead educational programs to reduce stigma.

The Substance Abuse and Mental Health Services Administration (SAMHSA) released a report in 2008 proposing their approach to reducing stigma. The report suggested that attitudes improve and stigma is reduced when the public has contact with people with mental disorders

(Hyman, 2008). Currently, SAMHSA encourages people with mental disorders to disclose their illness to others. In order to help, SAMHSA and CMHS recommended that guidelines for self-disclosure be created to help those who wish to do so. Guideline information should include tips on how to disclose, the pros and cons of doing so, and when and to whom to disclose (Hyman, 2008). However, contact with persons with mental illness to reduce stigma may be supplemented with public education to improve effectiveness (Rüsch et al., 2005).

Education. In 2003, a report from President George W. Bush's New Freedom Commission on Mental Health was published, which emphasized the role stigma plays in preventing people from seeking and obtaining the mental health care they need. As a way to achieve the goal of increasing treatment for those who need it, the report recommended an increase in national campaigns to reduce stigma through public education regarding the nature of mental health (New Freedom Commission, 2003). Since this commission, several such campaigns have been created to address the needs of public education regarding mental illness.

Several national campaigns currently work to educate others about the facts of mental illnesses. The American Psychiatric Association sponsors Mental Illness Awareness week each year to educate the public about the nature of mental illnesses (Skinner, Berry, Griffith, & Byers, 1995). NAMI (2010) also fights stigma with their StigmaBusters campaign involving volunteer advocates working to challenge and erase negative stereotypes of mental health and illness, especially in the media. The World Health Organization (WHO) and the World Psychiatric Association (WPA) also have campaigns that span the globe designed to fight stigma and discrimination (Mino, Yasuda, Tsuda, & Shimodera, 2001). CMHS has information on their website dedicated to an anti-stigma campaign, which includes information on the negative effects of stigmas and do's and do not's to eliminate stereotypes (CMHS, 2003). The efforts of

these national campaigns are supplemented by the efforts of individuals and smaller organizations that enact their own efforts to combat stigma.

Celebrities and other public figures are also getting involved in the anti-stigma movement. According to Foundation House (2010), a volunteer organization that provides services for those diagnosed with mental illness, Glenn Close publicly came forward about the mental illness diagnoses in her family. Her goal was to help educate the public regarding mental illnesses and to challenge the stigma that often accompanies mental health diagnoses (Foundation House, 2010). In an interview with the American Association of Retired Persons (AARP) in 2008, Close described her goal as focusing on educating the public about major depression, bipolar disorder, and schizophrenia to erase stigma and lead to better funding and care for persons with mental illness. A statement made by one of Close's fans highlights the severity of stigmas today – someone stated that it was a risk for Close to even associate herself with this type of campaign and publicly admit she has two family members diagnosed with severe mental illnesses (AARP, 2008). In response, Close invited her sister, who was diagnosed with bipolar disorder, to help Close and Foundation House advertise their newly launched national campaign, BringChange2Mind. This campaign was specifically designed to educate the general public about mental illnesses, using a primarily biological causality model with mention of environmental causes, and to provide resources to those diagnosed with mental illnesses (Foundation House, 2010).

While the efforts of these individuals and campaigns are important, research is also necessary to ensure the campaigns are having the desired effects. One research project included two separate studies, in which a 1-hour lecture was conducted to educate participants regarding mental health and public attitudes. Participants included medical students and members of the

general public. In both instances, attitudes towards mental health were improved and stigmas reduced, indicating that this type of education is effective in reducing stigma (Mino et al., 2001; Tanaka, Ogawa, Inadomi, Kikuchi, & Ohta, 2003). While education has shown to be effective in reducing stigma, it is important to consider the message presented. Programs need to ensure their material is factual, as well as effective, in reducing stigma. One of the common themes in educational programs is the causality of mental illness, but there is contradicting research between what is taught and what may reduce stigma.

Causality of Mental Illness and Stigma

In the United States today, many different organizations campaign to reduce stigma of mental illness. The goal is to build support for people with mental illness diagnoses, and to act as advocates for the mentally ill. In order to accomplish this, several organizations attempt to advance a bio-medical (endogenous) model of mental illness to educate the public and reduce stigma. Their rationale comes from attribution theory, which states that if the causes of a mental illness are attributed to an outside factor that is out of the control of the person, people will react with less negativity (Corrigan et al., 2000; Weiner, Perry, & Magnusson, 1988). Conversely, if the cause of mental illness is attributed to character flaws or problems the person has caused for him or herself, then people will react more harshly (Corrigan et al., 2000; Weiner, Perry, & Magnusson, 1988).

Research conducted by Martin and colleagues (2000) found this to be the case using data from the 1996 General Social Survey. Instead of comparing biological and psychosocial causes when examining causality of mental illness, Martin and colleagues examined causes a person could not control, such as life stressors and genetics, with causes from within the person, such as “bad character” or the results of poor parenting (Martin et al., 2000, p. 212). Their results

indicated that respondents were more willing to interact with persons with symptoms of a mental illness that were described as being due to structural causes the person could not control, as opposed to someone described as having symptoms resulting from individual causes within the person (Martin et al., 2000). Thus, many contemporary campaigns are based on the premise that teaching a biological causality of mental illness will reduce stigma and improve public attitudes towards people with mental illness.

An opposing argument states that a biological causality of mental illness actually may increase negative attitudes towards people with mental illness diagnoses. Link and Phelan (2001) stated that a belief in biological causality can lead others to perceive that people with mental illness are of a separate group or species from themselves. Persons with mental illness are perceived as strangers who have something wrong with them that people without mental illness fear they may catch themselves. Read and Harré (2001) added that acceptance of a biological causality of mental illness leads people to deem the person as not responsible for his illness, and thus as not in control. Lacking control means the person may be dangerous and unpredictable. The person with a mental illness cannot change his circumstances, and he is not responsible for his actions (Dietrich et al., 2004). Not being in control of one's mental illness also indicates that it will be more difficult to reduce or eliminate the symptoms of the illness.

Several studies have examined the differences in people's beliefs about the causality of mental illness and its relationship to stigma. Studies conducted in New Zealand, Germany, Russia, Mongolia, and the United Kingdom indicated that people who endorse biological causalities tend to also be more stigmatizing towards people with mental illness and desire increased social distance than people who endorse psychosocial or environmental causalities (Dietrich, et al., 2004; Lam, Salkovskis, & Warwick, 2005; Read & Harré, 2001; Read & Law,

1999). Read and Law (1999) have also concluded that negative attitudes can be improved when educational measures are used to teach psychosocial causality to those who previously endorsed a biological causality of mental illness.

However, most organizations in the United States today are advocating a biological causality of mental illness. One such campaign, advanced by NAMI, currently teaches a biological causality as part of their anti-stigma movement, regardless of the specific mental disorder being discussed. On their webpage entitled Mental Illness Facts, NAMI (2010) stated that mental illnesses are biological brain disorders and medical conditions. Other organizations list information on their websites about the biological causes of mental illness. While some, such as the National Institute of Mental Health (NIMH), explained that environmental factors are sometimes involved, the primary focus is on the biological origins of a given disorder.

The Substance Abuse & Mental Health Services Administration (2009) listed many other anti-stigma campaigns that are local or statewide throughout the United States. Many of these campaigns quote information from NAMI and similar organizations to educate the local public about mental illness. For example, the 1 in 5: Overcoming the Stigma of Mental Illness campaign in Saginaw, Michigan stated in their brochure that mental illnesses are brain disorders and should be treated like other medical illnesses and diseases. While these national and local campaigns are making an effort to reduce public stigma of mental illness, research indicates that a belief in a biological etiology may actually increase stigma. Therefore, it is possible that anti-stigma campaigns are not being effective with their current education programs.

Differences between Disorders

While differences in causality have been demonstrated in research, there is also the indication that differences in desire for social distance related to stigma exist between mental

disorders. Goldstein and Rosselli (2003) found that a psychosocial etiology of depression was related to beliefs that mental illness could be controlled and an increase in stigma. Angermeyer and Matschinger (2003) found that while schizophrenia was heavily stigmatized and negative attitudes were related to perceptions of the disorder itself, the same was not the case for depression. Instead, participants did not have negative views towards persons with major depression. Grausgruber, Meise, Katschnig, Schöny, and Fleischhacker (2007) found that the general public was more likely to endorse biological causality of schizophrenia and be more stigmatizing than relatives of, or people working with, people with schizophrenia. Finally, studies by Wrigley and colleagues (2005) and Dietrich and colleagues (2004) found that people endorse different causalities for schizophrenia and major depression. Schizophrenia was more frequently equated with a biological causality, whereas depression was equated with a psychosocial causality. While there seems to be a difference between causality and stigma based on disorder, most of the anti-stigma campaigns in the United States today educate about mental illnesses as a whole, rather than providing information on specific disorders.

Present Study

In order to combat stigma, many organizations are using educational campaigns to teach the general public about mental illness. These campaigns educate about the facts of mental illness while endorsing a biological causality for these disorders. Recent research has suggested, however, that a belief in biological causality leads to an increase in stigma and a greater desire for social distance (Dietrich, et al., 2004; Lam et al., 2005; Read & Harré, 2001; Read & Law, 1999). However, all of these studies were conducted in New Zealand, the United Kingdom, Germany, Russia, and Mongolia. This study was designed to investigate the relationship between causality and stigma after providing educational information regarding the causes of mental

illness. A second purpose was to see if results similar to those of Dietrich and colleagues (2004), Lam and colleagues (2005), Read and Harré (2001), and Read and Law (1999) are found with a sample in the United States.

The current study combined and extended the Read and Harré study (2001) and the Dietrich and colleagues study (2004). The goal of this investigation was to examine the possibility that providing information about a biological causality of mental illness may increase rather than decrease stigma of mental illness. Also, this study addressed the possibility that people desire different levels of social distance depending on the type of disorder presented.

This study surveyed college students' views on stigma, causality of mental illness, desire for social distance, and differences in stigma between schizophrenia and major depression, after being provided an information sheet to educate about mental illness causality. Based on prior research, it was hypothesized that participants reading a biological causality information sheet would desire greater social distance from persons with mental illnesses than those provided with a psychosocial causality information sheet. It was also hypothesized that participants in both information groups would desire greater social distance from the person described as being diagnosed with schizophrenia, as compared to the person with major depression.

CHAPTER II

Method

Participants

Participants for this study were volunteers recruited from Experimentrak, an online research management website run by the psychology department of East Carolina University, a large university in the southeastern United States. Participants were 177 students enrolled in introductory psychology classes at East Carolina University.

Measures

Beliefs about the causality of mental illness. The Mental Health Locus of Origin (MHLO) from Read and Harré's study (2001) was used to measure participants' beliefs regarding causality of mental disorders. This questionnaire includes 10 items rated on a 5-point Likert scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*). Eight of these items pertained to causality of mental disorders, and the other two items related to social distance, but these two items were not used in the analysis. A sample item is, "Mental illness is usually caused by some disease of the nervous system." Read and Harré took seven of the eight items from the original Mental Health Locus of Origin Scale (Hill & Bale, 1980), and added an additional item addressing concern about child maltreatment (Read, 1997).

Items are scored so that a high score indicated biological causality and a low score indicated a psychosocial/environmental causality. Scores were calculated by reverse-scoring items 7, 9, and 10, and adding the scores, resulting in a range from 8 to 40 with a midpoint of 24, where a score of 8 would be completely endorsing a psychosocial causality and a score of 40 would be completely endorsing a biological causality. As this was a revised version of the MHLO, the authors did not provide current data on internal consistency and reliability. For the current study, Cronbach's alpha was .41 for the pretest and .61 for the posttest. Due to the low

internal consistencies for this study, an item-to-total correlation was conducted for both the pre- and posttests. Results indicated that on the pretest, the alpha would have increased to .44 or .51 if items 9 or 10 were deleted, respectively. For the posttest, the alpha would not have increased with the deletion of any items.

Social distance. In order to measure a multifaceted concept like stigma toward mental illness, social distance is commonly used. Link and colleagues (1987) reported that social distance represents one of the most significant aspects of stigma toward mental illness. Measuring desire for social distance as “a proxy for behavioral discrimination” is frequently used in studies of stigma toward mental illness (Corrigan, Edwards, Green, Diwan, & Penn, 2001, p. 220). Social distance is defined as a person’s willingness to participate in relationships of various degrees of intimacy with people of a stigmatized group (Bowman, 1987). For example, degrees of social distance range from being willing to work at the same job with someone, to having the person as a neighbor, to dating or marrying the person. Using a Swiss sample, Lauber, Nordt, Falcato, and Rössler (2004) found that desire for social distance from people with mental illness increased as the situation required increasing levels of closeness. Similarly, Link, Phelan, Bresnahan, Stueve, and Pescosolido (1999) found that the public indicated a high desire for social distance from persons with mental illness; 47% of participants desired distance from people diagnosed with major depression, while 63% desired distance from those with schizophrenia (Link et al., 1999).

Therefore, to measure desire for social distance in this study, seven questions from the Social Distance Questionnaire (SDQ) in the Link and colleagues study (1987) were administered. These questions were rated on a 4-point Likert scale ranging from 0 (*definitely willing*) to 3 (*definitely unwilling*). Before the scale, a vignette was provided describing a person

with symptoms of either schizophrenia or depression. The instructions then indicated that the following questions should be answered based on the vignette just read. One such question reads “How would you feel having this person as a neighbor?” Scores were calculated by adding responses which resulted in a range from 0 to 21 with a midpoint of 10.5, where a score of 0 would indicate desiring little to no social distance and a score of 21 would indicate desiring as much social distance as possible. For their study, Dietrich and colleagues (2004) used translated versions of the SDQ and reported a Cronbach’s alpha = .90. For the current study, Cronbach’s alpha was .77.

The vignettes preceding each of the SDQ surveys were originally developed by Dietrich and colleagues (2004) for their study on stigma of mental illness. Two vignettes were written, one describing a person with symptoms of schizophrenia, the other symptoms of depression. The symptoms in both cases met the criteria for their respective disorders according to the Diagnostic and Statistical Manual of Mental Disorders, third edition revised. However, neither vignette indicated the disorder with which the individual was diagnosed. After developing the vignettes, Dietrich and colleagues had a panel of five psychiatrists and psychologists provide diagnoses for each vignette, and all the panel members provided the correct diagnoses for both cases (Dietrich, et al., 2004). The vignettes can be found in Appendix D.

Information sheets. The information sheets used were created specifically for this study. For the biological information sheet, information was derived from the National Alliance on Mental Illness’ website regarding facts of mental illness. The majority of NAMI’s information on mental illness focuses on the biological aspects of mental health, and thus was appropriate for the biological information sheet. The psychosocial information sheet was then designed by creating psychosocial or environmental counterparts to each statement on the biological

information sheet. A total of 10 statements about the causes of mental illness were created for each information sheet. The biological and psychosocial information sheets can be found in Appendix E.

Demographics. The final measure was a demographic questionnaire including questions on age, gender, ethnicity, class rank (freshman, sophomore, etc.), and information regarding contact with persons with mental illness. The demographic questionnaire can be found in Appendix F.

Procedure

Initially, participants logged onto their Experimentrak accounts and read an informed consent form outlining the purpose of the study. This form explained the study's intent to measure student attitudes towards mental illness. Participants then completed a copy of the MHLO online to assess their preexisting beliefs about causality of mental illness. This portion was completed a minimum of at least 48 hours prior to completing the second portion of the study.

After completing the online survey, participants were then automatically permitted to sign up for a time slot to complete the remainder of the study on campus. Interested individuals then completed the second part of the study in a classroom in the psychology building at East Carolina University. Participants arrived to the designated classroom in groups ranging from 1 to 10 participants at a time. If more than one participant was present, the researcher required participants to sit in alternating seats, leaving a desk space between each person to allow for privacy. The researcher instructed participants to report to the front of the classroom to ask the researcher questions or discuss concerns they had during the survey.

Participants were first given a copy of the informed consent form, which can be found in Appendix B. After reading and signing the informed consent form, participants read an information sheet that described the causes of mental illness. Participants were assigned to read an information sheet that described mental illness as either biologically (endogenous) or psychosocial/environmentally (interactional) determined. Participants were given a minimum of 5 minutes to read the information sheets, and then completed the MHLO to assess their beliefs regarding causality of mental illness. Then participants were assigned to read a vignette describing a person experiencing symptoms of either schizophrenia or major depression. Participants were instructed to complete the questionnaire based on the vignette they just read. Both the information sheet and the vignettes on the social distance questionnaires were distributed alternating between the two versions of each. Finally, participants completed the demographic survey. After completing all the questionnaires, participants returned their surveys to the researcher and received a debriefing statement, which can be found in Appendix C.

Proposed Analysis

Before examining the effects of causality beliefs on social distance, the effectiveness of the information sheets at changing causality beliefs was examined. To determine the effectiveness of the information sheets, a t-test for independent means and a paired-samples t-test were conducted. A t-test for independent means was conducted comparing the post MHLO means between individuals assigned to the two information conditions. A paired-samples t-test was conducted comparing the pre- and posttest scores for individuals within each condition

Next, whether the causality condition to which participants were assigned influenced participants' desire for social distance was evaluated. It was hypothesized that participants reading the biological causality information sheet would desire greater social distance when

compared to the participants reading the psychosocial causality information sheet. It was also hypothesized that participants would desire greater social distance from the person described as having schizophrenia as compared to the individual described as having depression. To evaluate these hypotheses, a 2 (causality sheet) x 2 (disorder) analysis of variance (ANOVA) was conducted on individuals' social distance scores.

Power Analysis

For this study, a power analysis was conducted to determine the sample size needed. For this analysis, alpha was set at .05, and power was set at .8. Based on this, a sample size of 26 participants per condition was necessary to detect a large effect size (Cohen, 1988). With four condition groups (biological/schizophrenia, biological/depression, psychosocial/schizophrenia, and psychosocial/depression), 104 participants were necessary.

CHAPTER III

Results

Participant Characteristics

The sample for this study included undergraduate students in a first year introductory psychology course at East Carolina University. Three hundred and ninety-two students completed the first portion of the study, while 177 students participated in both portions of the study. Only the data from the 177 participants who completed both portions of the study was used. Ages ranged from 18 to 53, with an average age of 19.2 years ($SD = 3.02$). Sixty-seven percent of participants were female. Seventy-five percent self-identified as Caucasian/European American, 19.8% as African American, 1.7% as Asian, 1.7% as Hispanic, 0.6% as Native American, and 1.1% as other ethnicities. The most frequent majors were nursing with 45 participants, followed by 17 who were undecided, 16 business majors, and 11 biology majors. Fifty-six other majors were listed with frequencies of six or less in each, including four declared psychology majors. Sixty-one percent of participants were freshman, 29.4% were sophomores, 6.8% were juniors, and 2.8% were seniors. When asked if they had ever been diagnosed with or experienced the symptoms of a psychological disorder, 10.7% said yes. When asked if they personally knew anyone who had been diagnosed with a severe psychological disorder, 60.5% said yes.

Basic demographic information for the complete Spring 2010 Experimentrak participant pool was reviewed to compare participants who completed both portions of the study and those who completed only the first portion. These data were collected through an online survey at the beginning of the semester by the Experimentrak administrators as prescreening data for researchers to use. There were 1500 participants total; of these, 56% were female. Seventy-seven

percent self-identified as Caucasian/European American, 14.7% as African American, 2.3% as Asian, 2.3% as Hispanic, 0.6% as Native American, and 2.9% as other ethnicities. Sixty-eight percent of participants were freshman, 21.1% sophomores, 6.2% juniors, 2.9% seniors, 0.8% graduate students, and 0.7% listed as other. When asked if they had a “potential mental health or emotional issue or significant life stressor that [they] would be willing to discuss as part of a training practice intake interview for doctoral students in clinical psychology,” 10.9% said yes. This supports that the sample used for this study was similar in overall composition to the larger participant pool on Experimentrak.

Causal Beliefs

Goal 1. The Mental Health Locus of Origin (MHLO) was used to assess initial beliefs regarding causality of mental illness and beliefs after reading the information sheet. On both the pretest and posttest, MHLO means were near the midpoint of 24. To evaluate if a change occurred between pre- and posttest scores on the MHLO, two t-tests were conducted. The first t-test was conducted to determine if reading the two information sheets, biological and psychosocial, had the desired effects of influencing the participants’ beliefs regarding causality in the corresponding direction. A t-test for independent means was conducted to compare causality scores on the pre- and posttest scores of the MHLO. Because the results for Levene’s test were not significant for either pre- or posttest scores, equal variances were assumed. When comparing students’ preexisting beliefs, there was not a significant difference between individuals assigned to the biological ($M=24.02$, $SD=3.03$) and psychosocial conditions’ ($M=24.24$, $SD=3.66$) causality beliefs at pretest; $t(175) = 0.43$, $p = .67$. When comparing students’ beliefs after reading the information sheet, there was a significant difference between

individuals assigned to the biological ($M=26.58$, $SD=4.15$) and psychosocial ($M=23.17$, $SD=4.17$) conditions on their scores at posttest; $t(175) = 5.47$, $p < .001$.

The second t-test was conducted to evaluate the effectiveness of each information sheet. A paired-samples t-test was used to compare each causality condition at pre- and posttest. When comparing the pre- and posttest results for the biological causality condition, there was a significant difference between pretest ($M=24.02$, $SD=3.03$) and posttest ($M=26.58$, $SD=4.15$); $t(88) = 4.97$, $p < .001$. When comparing the pre- and posttest results for the psychosocial causality condition, there was a significant difference between pretest ($M=24.24$, $SD=3.66$) and posttest ($M=23.17$, $SD=4.17$); $t(87) = 2.42$, $p = .02$. The means for both the pre- and posttests, based on which conditions to which they were assigned are listed in Table 1.

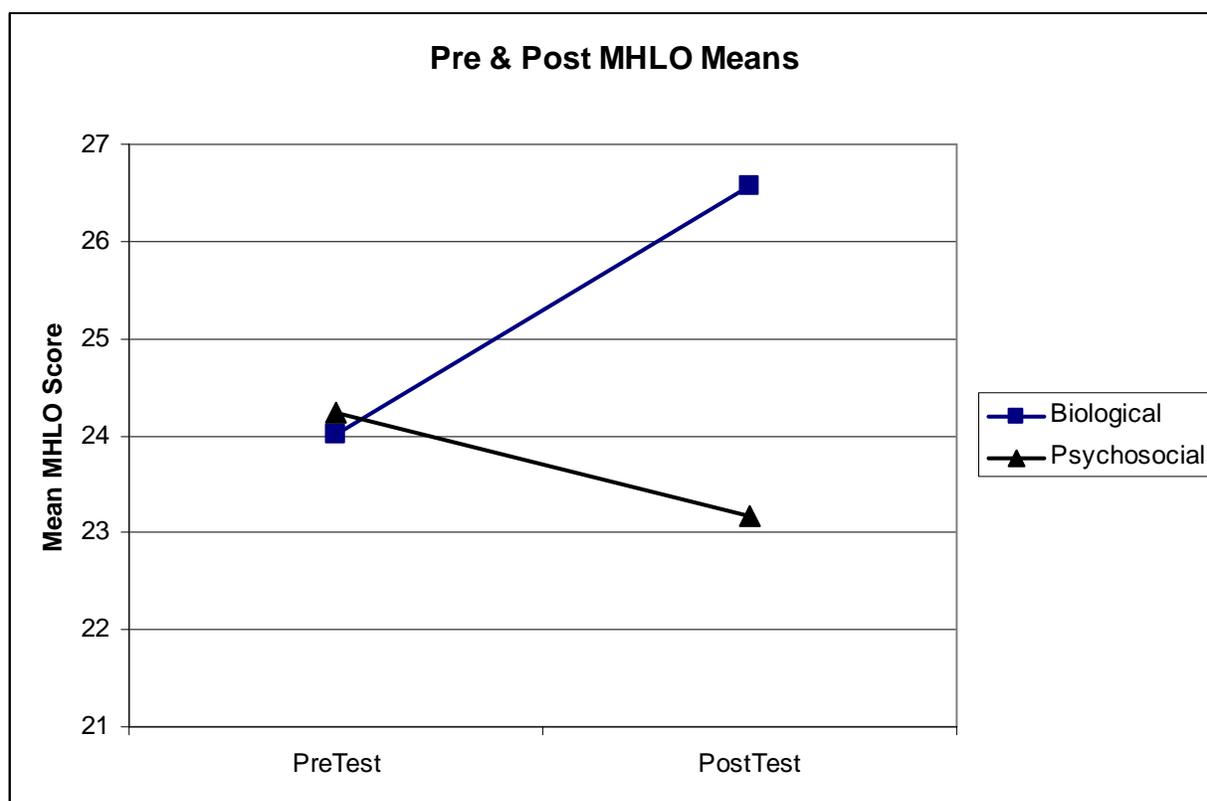
Table 1. Means and standard deviations for both pre- and posttest MHLO scores, based on which condition to which participants were assigned. Range 8-40, midpoint 24.

	Pretest		Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Biological	24.02	3.03	26.58	4.15
Psychosocial	24.24	3.66	23.17	4.17

These results indicated that participants' responses on the pretest were clustered around the same spot on the continuum between psychosocial causality and biological causality. However, after reading the biological or psychosocial causality information, their scores on the posttests were significantly different from one another. In addition, their scores were in the same direction as corresponded with the information sheet the participants received. Those who read the biological information sheet scored higher, on average, on the MHLO which indicated endorsing a biological causality. Equally, the participants who read the psychosocial information sheet scored lower on the MHLO which indicated endorsing a psychosocial causality. These

results also indicated that both information sheets were effective. The means of the pretest and posttest scores are displayed in Figure 1.

Figure 1: Causality mean scores for pre- and post-Mental Health Locus of Origin scores, comparing biological and psychosocial causality conditions. A higher score denotes endorsing a biological causality.



Social Distance

The Social Distance Questionnaire (SDQ) was used to assess participants' desire for social distance based on a vignette they read depicting a person having symptoms of either schizophrenia or depression. Overall, greater social distance was desired by participants who read the vignette describing a person with schizophrenia compared to the vignette describing a person with depression. Desire for social distance did not differ based on whether the participants were assigned to the biological or psychosocial causality condition. SDQ means for

both vignettes and both information sheet groups tended more towards a desire for social distance (midpoint 10.5). Descriptive means are provided in Table 2.

Table 2: Descriptive means for desire for social distance. Possible range 0-21, midpoint 10.5.

Information Sheet	Vignette	<i>M</i> (range 0-21)	<i>SD</i>	N
Biological	Depression	13.07	3.39	45
	Schizophrenia	13.93	2.79	44
Psychosocial	Depression	13.09	2.81	45
	Schizophrenia	15.35	2.87	43

Goals 2 and 3. Two hypotheses were evaluated in this study. First, it was hypothesized that participants reading biological causality information sheets would desire greater social distance from persons with mental illnesses than those provided with the psychosocial causality information sheets. It was also hypothesized that participants in both information groups would desire greater social distance from the person described as being diagnosed with schizophrenia, as compared to the person with major depression. To test the two hypotheses, a two-way analysis of variance was conducted to compare social distance scores between biological and psychosocial causality conditions as well as depression and schizophrenia vignettes. Because the results for Levene's test were not significant, equal variances were assumed. The ANOVA results are presented in Table 3. Social distance was significantly different for students who received the depression and schizophrenia vignettes, $F(1, 173) = 12.17, p < .005$, partial $\eta^2 = .066$. Social distance was not significantly different for individuals assigned to the biological and psychosocial causality conditions, $F(1, 173) = 2.58, p = .11$, partial $\eta^2 = .015$. There was no significant interaction between causality condition and diagnosis condition, $F(1, 173) = 2.43, p = .12$, partial $\eta^2 = .014$. These results indicated that desired social distance differed between schizophrenia and depression, with people reading the schizophrenia vignette desiring greater

social distance. There was no difference in desired social distance based on the causality condition to which participants were assigned.

Table 3: Two-way ANOVA results for Social Distance

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	η^2
Between Treatments	150.56	3	50.19	5.66	.001	.089
Causality	22.91	1	22.91	2.58	.110	.015
Diagnosis	108.00	1	108.00	12.17	.001	.066
Causality x Diagnosis	21.51	1	21.51	2.43	.121	.014

Since reading the information sheets that were designed to influence participants' beliefs about the origins of mental illness had small effects on the participants' desire for social distance from people with mental illness, a regression analysis was conducted in which social distance was regressed on the participants' pretest mental health locus of origin scores. The regression model was statistically significant ($F = 7.152, p = .008$). As participants' scores on the MHLO decreased (moved toward the psychosocial causality end of the scale, their social distance score increased (desiring greater social distance). However, the R^2 of .03 for the model indicated that a large proportion of the variance in social distance scores was attributable to factors other than MHLO scores.

CHAPTER IV

Discussion

Because prior studies in countries other than the United States found that beliefs regarding causality are related to desire for social distance, this study investigated whether an educational intervention that framed causality of mental illnesses as biological or psychosocial would increase United States participants' desire for social distance (Dietrich et al., 2004; Lam et al., 2005; Read & Harré, 2001; Read & Law, 1999). Two hypotheses were evaluated. First, it was hypothesized that students reading biological causality information sheets would desire greater social distance from persons with mental illnesses than those provided with the psychosocial causality information sheets. This study did not find a significant difference between the causality condition assigned and desire for social distance. These results did not confirm the proposed hypothesis that reading information about a biological causality of mental illness would lead to greater desired social distance, which was based on the research by Link and Phelan (2001) and Read and Harré (2001). Findings in this study indicated that education regarding causality did not have a significant effect on participants' desire for social distance.

It was also hypothesized that participants would desire greater social distance from a person described as being diagnosed with schizophrenia, as compared with a person with major depression. Consistent with previous research, this study found that there was a significant difference in desire for social distance between persons described with the two disorders. Results indicated that participants, regardless of which causality sheet they read, desired greater social distance from the person described as being diagnosed with schizophrenia, when compared to the person described as being diagnosed with depression. These results are consistent with previous

research (Angermeyer & Matschinger, 2003, Dietrich et al., 2004, Grausgruber et al., 2007, Wrigley, Jackson, Judd, & Komiti, 2005).

Limitations

A few limitations were present in this study. One limitation was the sample used consisted entirely of undergraduate students at a large university in Eastern North Carolina, which may not be representative of a sample within the United States. Also, the information sheet used was made specifically for this study and may not be representative of the educational campaigns used by the national organizations to educate the public about mental illness. National campaigns typically sponsor week-long events and use multiple media formats to present their campaign information. However, information presented in this scope and breadth was not optimal for the time frame or size of this study. Results comparing pretest and posttest scores on the MHLO did indicate the information sheets were effective in influencing individuals' reported beliefs about mental illness causality. However, while the mean scores on the MHLO indicated that there was a significant difference between causalities endorsed, the biological causality condition resulted in a greater change in participants' beliefs regarding causality than the psychosocial causality condition. The biological information sheet may have resulted in greater change because it was designed specifically from campaign information already used by NAMI to educate the public. However, at the time this study was designed, current national campaigns did not have any comparable psychosocial information available for use for the second information sheet. Therefore, the psychosocial information sheet contained items that were designed to be counterparts to each biological information sheet statement, and were not derived directly from information already used by a national campaign.

The procedure used for providing education regarding causality of mental illness poses another possible limitation to this study. To educate participants, a brief information sheet was provided and read silently by the participants prior to completing the posttest MHLO. The researcher waited at least 5 minutes to help ensure the participants spent time reading the information sheet. However, this may not have been sufficient time for the participants to thoroughly examine the information. Also, a lengthier and more detailed education portion, similar to the national campaigns' approach, may have been necessary to ensure equally successful causality manipulations. The participants may not have regarded the information sheets as credible, as no source or citation was indicated on the sheets.

Another limitation concerned the method to assess beliefs about the causality of mental illness. Specifically, the internal consistency for the newer version of the MHLO was quite low and not considered acceptable. Thus, results should be interpreted cautiously. In their study, Read and Harré (2001) reported an initial Cronbach's alpha of .45. In their analysis, two items related to psychosocial causality, stressful situations and abuse or neglect, had weak correlations. After removing the two weakest item-to-total correlation items, their alpha increased to .58 (Read & Harré, 2001). For this study, the two items were not removed to see if they would be useful to the analysis. According to the item-to-total correlation, the alpha at posttest would not have increased if either of these two items had been deleted from the survey. Although the psychometric properties reported for the MHLO were low, the MHLO remains as one of the only instruments in literature that tapped beliefs regarding causality of mental illness. Therefore, the MHLO was employed in this study, and the results indicated that this instrument is barely acceptable in terms of internal consistency and consequently, validity. Thus, an instrument with

stronger psychometric properties is needed to better assess beliefs regarding causality of mental illness.

Another difference is the way in which stigma was measured. Read and Harré (2001) used the Total Attitude Scale, which measures whether the participant perceives the person described as dangerous or unpredictable. Read and Harré found that beliefs about dangerousness and unpredictability were important components of stereotypes toward people with mental illness, and they stated that these attitudes would be expressed in such behaviors as social rejection. Accordingly, in this study, social distance was directly measured. However, using this measure may have omitted other important types of rejection or discriminatory behavior.

In their study, Read and Harré also used the term mental patient when describing the person about whom the participant was answering the attitude questions. This study differed by describing a person as having symptoms of either schizophrenia or depression, but the names of the disorders and the words mental patient were not used. The use of the term mental patient is probably more stigmatizing than a behavioral description of a disorder, so a less strong stereotype may have been aroused for participants.

Implications for Further Research

The current study did confirm differing levels of desire for social distance from persons described with either schizophrenia or depression. However, this study did not confirm previous research that endorsing a biological causality of mental illness would lead to greater desire for social distance. Instead, the regression analysis indicated that participants who were in the psychosocial causality condition may have desired greater social distance when compared to those in the biological causality condition. These results are similar to those of Martin and colleagues (2000) which showed that people desired less social distance from persons with

mental illnesses when the source was seen as out of the person's control, including daily life stressors and genetics or biological causes. However, when the causality of mental illness was due to individual causes, such as "bad character" or the results of parenting, participants desired greater social distance (Martin et al., 2000, p. 212). These results indicated that stigma of mental illness can, in some part, be linked to beliefs about causality of mental illnesses. Therefore, further research is needed to determine specifically which beliefs about causes of mental illness increase desires for social distance. An aspect of this research should involve developing a more psychometrically sound assessment than the Mental Health Locus of Origin.

These results suggest that current campaign efforts to reduce stigma by teaching a specific causality of mental illness, particularly those entirely biological in nature, may not be the most effective approach at eliminating stigma of mental illness. National organizations in the United States are headlining campaigns to educate the general public about the causes of mental disorders in order to combat stigma. However, it is possible that beliefs regarding the causes of mental illness is not the most important message for educational campaigns to elicit change regarding mental health stigmas. Also, these campaigns frequently educate about multiple disorders and their causes simultaneously, without making a distinction between different disorders. Because these results, along with previous research, indicated that there is a difference between social distance desired depending on the individual's disorder, national campaigns may benefit from educating about disorders individually, with specific information presented for different disorders.

Based on the results of this study, several areas for further research are possible. First, in order to better assess the possible differences between research in other countries and the United States, a larger, more representative sample of the United States could be used. If a similar study

was conducted using a representative United States sample, the study may also benefit from a more thorough educational portion. If an educational portion is designed specifically for future studies, the research would benefit from a pilot study to ensure all version of the information presented are equally effective in eliciting changes in participants' beliefs. Also, in this study only two disorders were examined; further research may investigate if there are differences between other disorders that vary in severity from the ones chosen for this study.

Research by Dietrich and colleagues (2004) suggested that while beliefs about causality may affect desire for social distance, a more salient underlying factor may be the person's beliefs regarding a person with mental illness' ability to control his or her recovery. In the *Monitor on Psychology*, June 2009, Pescosolido reported that endorsing a biological causality may lead to individuals viewing mental disorders as incurable (Dingfelder, 2009). Future research may benefit by asking participants not only about causality endorsed, but also how hopeful they are that the person being described with the mental illness can recover or heal from the disorder.

Currently in the United States, multiple organizations are working to reduce mental health stigma by educating the public about the causes of mental disorders and teaching that mental disorders are a "disease like any other" (Dingfelder, 2009, p. 60). However, without further research to determine if causality in general is an effective target for anti-stigma campaigns in the United States, these campaign efforts may not be having the desired effects. Based on the results from this study, along with the studies reviewed in the literature, relevant concepts for identifying salient themes to include in educational interventions include causal attributions (biological, psychosocial, structural, or individual), potential for recovery, dangerousness, and unpredictability. If mental health stigma is not reduced through education regarding causality of mental illness, then research is needed to assess what would reduce stigma

regarding mental health in the United States. Martin and colleagues (2000) suggested that increasing the sophistication of public attitudes towards the nature and causes of mental health problems can have a liberalizing affect on attitudes towards people with mental illnesses. They have called for researchers, service providers, consumer groups, and policy-makers to confront this persistent need to reduce stereotypes and social prejudices and to promote social acceptance towards people with mental health concerns.

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Appendix A

Institutional Review Board Approval



University and Medical Center Institutional Review Board
 East Carolina University • Brody School of Medicine
 600 Moye Boulevard • Old Health Sciences Library, Room 1L-09 • Greenville, NC 27834
 Office 252-744-2914 • Fax 252-744-2284 • www.ecu.edu/irb
 Chair and Director of Biomedical IRB: L. Wiley Nifong, MD
 Chair and Director of Behavioral and Social Science IRB: Susan L. McCammon, PhD

TO: Andrea Maxwell, BA, Department of Psychology, ECU
 FROM: UMCIRB *LSR*
 DATE: May 27, 2009
 RE: Expedited Category Research Study
 TITLE: "The Relationship Between Casual Beliefs and Stigma of Mental Illness"

UMCIRB #09-0462

This research study has undergone review and approval using expedited review on 5/19/09. This research study is eligible for review under an expedited category because it is research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.). The Chairperson (or designee) deemed this **unfunded** study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of 5/19/09 to 5/18/10. The approval includes the following items:

- Internal Processing Form (dated 4/28/09)
- Informed Consent Script (dated 5/6/09)
- Questionnaire on Attitude Towards Mental Health (dated 5/6/09)
- SDQ Vignettes (dated 5/6/09)
- Facts on Mental Health Information Sheets (dated 5/6/09)
- Demographics Questionnaire (dated 5/6/09)
- Debriefing Summary of Study (dated 5/6/09)

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.

UMCIRB #:

**UNIVERSITY AND MEDICAL CENTER INSTITUTIONAL REVIEW BOARD
REVISION FORM**

RECEIVED
SEP 04 2009
UMCIRB

UMCIRB #: 09-0462

Date this form was completed: 06-18-2009

Title of research: The Relationship Between Causal Beliefs and Stigma of Mental Illness

Principal investigator: Andrea Maxwell

Sponsor: unfunded

Fund number for IRB fee collection (applies to all for-profit, private industry or pharmaceutical company sponsored project revisions requiring review by the convened UMCIRB committee):

Fund	Organization	Account	Program	Activity (optional)
		73059		

Version of the most currently approved protocol: May 6, 2009

Version of the most currently approved consent document: May 6, 2009

CHECK ALL INSTITUTIONS OR SITES WHERE THIS RESEARCH STUDY WILL BE CONDUCTED:

- | | |
|--|--|
| <input checked="" type="checkbox"/> East Carolina University | <input type="checkbox"/> Beaufort County Hospital |
| <input type="checkbox"/> Pitt County Memorial Hospital, Inc | <input type="checkbox"/> Carteret General Hospital |
| <input type="checkbox"/> Heritage Hospital | <input type="checkbox"/> Boice-Willis Clinic |
| <input type="checkbox"/> Other | |

The following items are being submitted for review and approval:

- Protocol: version or date
 Consent: version or date
 Additional material: version or date

Complete the following:

- Level of IRB review required by sponsor: full expedited
- Revision effects on risk analysis: increased no change decreased
- Provide an explanation if there has been a greater than 60 day delay in the submission of this revision to the UMCIRB. NA
- Does this revision add any procedures, tests or medications? yes no If yes, describe the additional information: This revision now allows for online participation. Participants will receive surveys as email attachments and may return them anonymously via postal mail to the primary researcher.
- Have participants been locally enrolled in this research study? yes no
- Will the revision require previously enrolled participants to sign a new consent document? yes no

Briefly describe and provide a rationale for this revision To allow participants who cannot travel to campus to still participate in the study.

Andrea Maxwell Andrea Maxwell 6-18-09
Principal Investigator Signature Print Date

Box for Office Use Only

The above revision has been reviewed by: <input type="checkbox"/> Full committee review on _____ <input checked="" type="checkbox"/> Expedited review on <u>9-9-09</u>		
The following action has been taken: <input checked="" type="checkbox"/> Approval for period of <u>9-9-09</u> to <u>5-18-10</u> <input checked="" type="checkbox"/> Approval by expedited review according to category <u>45CFR46.110</u> <input type="checkbox"/> See separate correspondence for further required action.		
<u>L. Wiley Njlong, MD</u> Signature	<u>/s/</u> Print	<u>9-9-09</u> Date

Appendix B

Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH

PURPOSE AND PROCEDURES

The purpose of this research study is to examine college attitudes towards mental illnesses. In participating in this research, you will be asked to complete several questionnaires about your attitudes and opinions. Total participation time will take 25-30 minutes.

POTENTIAL RISKS AND DISCOMFORTS

You may find the following risks or discomforts from participating in this study: You may feel some unease because this study asks information about mental illnesses, exposure to people with mental illness, and personal experience with mental illness. However, answers will remain anonymous, and your identity can not be tied to your questionnaire. Your participation is voluntary, and you may withdraw at any time without penalty. By your filling out the questionnaires, you are giving your consent to participate in this study.

POTENTIAL BENEFITS

The only personal benefit you are likely to receive from participation is the educational benefit of participating in the research process and reading the debriefing information at your completion of the study. The knowledge gained from this study may be beneficial in the development of educational programs related to people with mental health concerns.

SUBJECT PRIVACY AND CONFIDENTIALITY OF RECORDS

Your responses will be kept anonymous and personal identifiers will not be linked to your questionnaires. Surveys will be kept in a locked office, to which only the primary researcher and supervisor will have access. The surveys will be kept for at least five years following the publication of an article based on this study..

COSTS OF PARTICIPATION & COMPENSATION

By participating in this research study, you will not receive any monetary compensation for your participation in this study. However, your professor may provide extra credit for your participation.

VOLUNTARY PARTICIPATION

Participating in this study is voluntary. If you decide not to be in this study after it has already started, you may stop at any time without losing benefits that you should normally receive. You may stop at any time you choose without penalty.

PERSONS TO CONTACT WITH QUESTIONS

The investigators will be available to answer any questions concerning this research, now or in the future. You may contact the investigators, Andrea Maxwell at (252) 702-7448 or Dr. Susan McCammon at (252) 328-6357. If you have questions about your rights as a research subject, you may call the Chair of the University and Medical Center Institutional Review Board at phone number 252-744-2914 (days). If you would like to report objections to this research study, you may call the ECU Director of Research Compliance at phone number 252-328-9473.

Appendix C

Debriefing Summary of Study

DEBRIEFING SUMMARY OF STUDY

This study examined the relationship between biological and psychosocial causality and stigma to determine which theory is associated with the least amount of stigmatization. Many major organizations, such as the National Alliance for the Mentally Ill (NAMI), are seeking to reduce stigma through educational campaigns that focus on biological causality for mental disorders. However, several studies have indicated that a biological causal belief leads to greater stigma, including a greater desire for social distance.

The current study combined and extended the Read and Harré study (2001) and the Dietrich and colleagues study (2004). This study surveyed college students' views on stigma, causality of mental illness, and desires for social distance, after providing an information sheet to educate about mental illness causality. The information sheet you received contained only one side of the causality of mental illness. Most researchers today agree that mental illness is caused by a combination of biological and environmental factors. Previous exposure to persons with mental illness was also examined. It is hypothesized that students reading biological causality information sheets will desire greater social distance than those provided with the psychosocial causality information sheets. It is also hypothesized that those who have had greater contact with persons with mental illness will desire less social distance.

The investigators will be available to answer any questions concerning this research, now or in the future. You may contact the investigators, Andrea Maxwell or Dr. Susan McCammon at the phone numbers and email addresses below. If you have questions about your rights as a research subject, you may call the Chair of the University and Medical Center Institutional Review Board at phone number 252-744-2914 (days) and/or the ECU Risk Management Office at 252-328-2010.

Andrea Maxwell
amk0329@ecu.edu

Dr. Susan McCammon (252) 328-6357
mccammons@ecu.edu

*****PLEASE BE AWARE THAT THIS IS AN ONGOING STUDY. PLEASE DO NOT DISCUSS ANY ASPECT OF THE STUDY WITH ANY OTHER STUDENT THAT MAY PARTICIPATE IN THE STUDY. IF YOU DO SO, IT MAY INFLUENCE THEIR RESPONSE AND THEREFORE THE RESULTS OF THE STUDY. THANK YOU**

Appendix D

Social Distance Questionnaire Vignettes

Depression Vignette

During the last 2 months, one of your friends, Jay, has changed very much. Contrary to previous times, he is feeling downcast and sad without any specific reason. He looks concerned and worried. There is nothing that makes him laugh. He hardly ever talks and, if he does, he speaks in a low voice about worries concerning the future. Your friend feels useless and a failure. Attempts to cheer him up are not successful. He has lost all his interests. He complains about waking up repeatedly in the middle of the night and about being unable to fall asleep afterwards. In the morning, he feels weary and without energy. He reports to be hardly able to concentrate on his work. Unlike before, every task takes him a long time to do. He hardly does his duty at work and had to see his superior because of this.

Schizophrenia Vignette

During the last six months, one of your friends, Sam, has changed. He withdraws from his coworkers and friends more and more. He keeps out of everybody's way. If ever a conversation with him is possible, there is just one single topic to talk about: the question as to whether certain people have the ability to read other people's thoughts. He is preoccupied with this thought and cannot think of anything else. Contrary to his former habits, he does not take care of his appearance any longer and seems to neglect himself increasingly. At work he seems absentminded and often makes mistakes. He already had to see his superior because of this. Finally, he did not go to work for a whole week, without giving any excuse. Since then, he seems to be anxious and agitated. He reports to be convinced that not only are people able to read other people's thoughts, but that they are also able to influence these thoughts; but he does not yet know who is controlling his thoughts. He even hears these people talking to him and giving him orders. Sometimes, they speak to one another and mock him. In his apartment, the situation is particularly bad. There he feels threatened and terribly scared. He has not been at home for a week and hid in a hotel which he has not dared to leave.

Appendix E

Information Sheets

THE FACTS ON MENTAL ILLNESS

1. Mental illnesses are biologically based brain disorders. Just like cirrhosis is a disease of the liver, mental disorders are a disease of the brain.
2. Mental illnesses disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning.
3. These medical conditions cannot be overcome by a person's willpower.
4. Mental illnesses are not a result of a person's personal weakness, lack of character, or bad parenting.
5. Mental illnesses are treatable, primarily through medication and supplemental psychosocial treatment.
6. Research has shown, in some disorders, that the brains of people with mental illnesses are different from the brains of people without mental illness.
7. In some instances, certain genes increase a person's risk for mental illness, but do not alone cause the illness. There is an increased risk if one has a family history of mental illness.
8. While there may be several causes of a mental illness, research has firmly established that most, if not all, mental illness is biological in nature and should be treated as a medical illness.
9. In many disorders, a chemical imbalance in neurotransmitters in the brain is the source of symptoms and must be treated with medication.
10. People with mental illness are rarely dangerous or violent towards others while they are receiving treatment.

THE FACTS ON MENTAL ILLNESS

1. Mental illnesses are psychosocial based disorders that are triggered by environmental events.
2. Mental illnesses disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning.
3. Interpersonal events, maltreatment, and abuse can all give rise to mental illnesses, especially if someone has a predisposition to an illness.
4. Societal problems, poor parenting, family situations, and social stress can create or aggravate and already existing mental illness.
5. Mental illnesses are treatable, primarily through psychosocial treatment and therapy.
6. Medications are typically used to help a person become stabilized while they are still learning the psychosocial skills they need to better cope with their illness.
7. Chronic stress or sudden trauma can lead to psychopathology.
8. Psychosocial therapy can teach a person the appropriate coping skills to improve mental illness symptoms, as well as prevent future complications.
9. There are many sources of stress that can lead to psychopathology if a person does not have appropriate coping mechanisms. Some of these include poverty, unemployment, lack of a social network, low socioeconomic status, low self-esteem, racism, loss of a loved one, and drastic changes to one's way of life.
10. Some events that may occur in childhood, such as neglect or abuse, can affect a person's mental health later in life.

Appendix F

Demographics

Demographics

Please answer the following:

1. Age: _____

2. Sex: Male _____ Female _____

3. Ethnicity: Caucasian _____ African American _____ Native American _____ Asian _____
Hispanic _____ Other _____

4. Major: _____

5. Class Rank: Freshman: _____ Sophomore: _____ Junior: _____ Senior: _____ Graduate: _____

6. Have you personally been diagnosed with or experienced symptoms of a psychological disorder? Yes _____ No _____

7. Do you personally know anyone who has been diagnosed with or experienced symptoms of a psychological disorder? Yes _____ No _____

8. If yes, please indicate each person's relationship to you (*examples: you, parent, sibling, friend, co-worker, partner*) and length of time you have known them:

Relationship	Known for how long?
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

9. Describe the type of problems they have:
