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# Contact and stigma toward mental illness: Measuring the effectiveness of two video interventions

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Contact and stigma toward mental illness:  
Measuring the effectiveness of two video interventions

by

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## ABSTRACT

Researchers have demonstrated that mental illness stigma is both prevalent in our society and has serious negative consequences for mentally ill persons and their friends and family (Corrigan, 2004a). One of the ways researchers have found to reduce mental health stigma is through contact with persons with mental illness (Corrigan et al., 2002; Desforges et al., 1991; Schulze, Richter-Werling, & Angermeyer, 2003). Researchers have also shown that indirect methods of contact, such as videos, can be both effective in reducing stigma toward mental illness and in reaching large groups of individuals (Reinke, Corrigan, Leonhard, Lundin, & Kubiak, 2004). The goal of the current study is to assess the impact of two different video interventions involving indirect contact with persons with mental illness on reducing stigma. The first focused on personal stories of those experiencing mental illness. The second focused on the stories of friends and family members in their support of those experiencing mental illness. The two treatment videos were compared at three time points (pre-test, post-test, and follow-up) to a control video. Participants were 319 undergraduates at a large mid-western university. Results using mixed model Analysis of Variance (ANOVA) indicated the treatment interventions did not significantly impact stigma toward mental illness when compared to the control condition, though, all videos led to some short-term changes in stigma. Future studies aimed at reducing stigma may want to more closely examine the necessary ingredients associated with changing stigma when using a video intervention.

## CHAPTER ONE: INTRODUCTION

According to Link and Phelan (2001), stigma stems from the identification and labeling of differences among people, which results in discrimination, loss of status, or loss of opportunities. The stigma associated with mental illness has been found to have a negative impact on people with serious psychological problems (Rusch, Angermeyer, & Corrigan, 2005). Specifically, mental health stigma has been found to negatively impact an individual in the criminal justice system (Lamb & Weinberger, 1998; Teplin, 1984; 1990), one's opportunities for jobs and lodging (Corrigan, 2004a; Fiske, 1993; Link, 1987), one's self-esteem (Corrigan, 1998; Corrigan, 2004a; Holmes & River, 1998; Link, 1987; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001), and one's attitudes toward and willingness to seek professional psychological help (Amato & Bradshaw, 1985; Ben-Porath, 2002; Corrigan, 2004a; Deane & Todd, 1996; Vogel, Wade, & Ascheman, 2009; Vogel, Wade, & Haake, 2006).

The negative impact of stigma creates a mandate for researchers to examine ways to decrease this stigma. Thus, finding strategies for changing stigma is an important area of research. Researchers have shown that contact with persons with mental illness is a successful way to reduce the stigma (Chinsky & Rappaport, 1970; Corrigan et al., 2002; Desforges et al., 1991; Schulze et al., 2003; Thornicroft, Brohan, Kassam, & Lewis-Holmes, 2008). Based on Allport's (1954) contact hypothesis, interpersonal contact and interaction with people from a different group (e.g., mentally ill), can lead to changes in attitudes toward, beliefs about, and stigma associated with such persons. Beginning in the 1960s, the contact hypothesis was extended to mental health stigma by researchers in the field looking for ways to reduce negative views of persons with serious mental health problems (Chinsky

& Rappaport; Hochberg, 1963; Link & Cullen, 1986; Trute, Tefft, & Segall, 1989).

Researchers have used various methods to study the impact of contact on mental health stigma. One popular method for examining the impact of contact on stigma toward mental illness is through studies in which participants are asked to simply report their past exposure to and experience with mentally ill persons (e.g., Trute et al., 1989). The reported previous contact is then examined to see how it correlates with a stigma-related variable such as perceived dangerousness (e.g., Link & Cullen, 1986). Many of these studies found that prior contact with people with mental illness did significantly lessen perceived dangerousness and desired social distance from such persons. However, some of these studies have resulted in non-significant findings, possibly due to lack of random assignment and the use of self-report measures of previous contact.

In response to the drawbacks of studies that asked participants to report prior contact with mental illness, several researchers used methods in which participants had contact with mentally ill persons in the actual study. In some cases, random assignment was used (e.g., Corrigan, River et al., 2001; Desforges et al., 1991), but in others, it was not (e.g., Chinsky & Rappaport, 1970; Kish & Hood, 1974). In addition to whether or not random assignment was used, studies also differed in how they manipulated the contact. For example, some studies used in-person contact with people with mental illness such as asking participants to visit with patients at a mental health institute and then rate their attitudes toward persons with mental illness (Wallach, 2004). Other studies used indirect contact such as with vignettes where they asked participants to read a story about a person with mental illness (e.g., Arkar & Eker, 1992; Penn, Kommana, Mansfield, & Link, 1999). Another commonly used form of indirect contact is through the use of videos (e.g., Penn, Chamberlin, & Mueser, 2003).



Several researchers have directly examined the manner in which contact is used in research studies and have found that both direct and indirect contact can also lead to significant reductions in stigma (e.g., Reinke et al., 2004). Furthermore, indirect contact (e.g., use of vignettes or videos) has the potential to reach a larger group of individuals. This study aims to assess the impact of two videos on mental health stigma.

The most common type of intervention video has been of people talking about their personal experiences with mental illness. It is thought that seeing a person with mental illness talk about their experiences will lead to greater empathy and changes in stigmatizing perceptions (e.g., this person doesn't seem dangerous). However, researchers have also begun to expand their focus to include the individual's family and friends. Family and friends of people with mental illness are also impacted by mental health stigma (e.g., Larson & Corrigan, 2008). Referred to as 'family stigma', significant others of persons with severe psychological problems may be stigmatized based on their relation to a person with mental illness. In other words, the negative perceptions of people with mental illness held by society may be extended to the family and friends of people with severe mental health problems. Family and friends often play a crucial role in providing support during the recovery process; however, family stigma can be a major obstacle because concerns about mental health stigma may lead to avoidance or rejection of the friend or family member. As such, it is crucial to examine ways to address these types of concerns. One way to do so may be to hear the experiences or stories from friends and family members of persons with mental illness. Directly hearing how other individuals were able to deal with the stigma and support their friend or family member may improve perceptions. As such, this study aims to assess the impact of two types of video interventions on the stigma associated with mental illness. The

first is a more traditional video of people talking about the experience with mental illness (“personal stories”). The second is a video of people talking about their experiences of being a family member or friend of someone with mental illness (“stories from others”).

### *Goals of the Current Study*

Due to the detrimental effects of mental illness stigma, it is imperative that researchers investigate the effectiveness of interventions aimed at improving attitudes and reducing stigma toward the mentally ill. The first goal of this study is to build on past research by directly examining the impact of two contact videos on stigma and attitudes. Specifically, two separate video treatment conditions were examined. In one, participants watched a video of people talking about their personal experiences with mental illness. In the other, participants watched people talk about the experience of supporting family members or significant others with mental illness. It was hypothesized that watching either of these videos would reduce the stigma and negative views of people with mental illness as compared to watching the control video (about a woman’s experience overcoming breast cancer). The treatment videos and control video were compared at three time points (pre-test, post-test, and 1-week follow-up). A Time X Condition (“personal stories”, “stories from others”, control) interaction was predicted such that participants who watched either of the treatment videos (“personal stories” or “stories from others”) would experience greater reduction in stigma than participants in the control condition. It was also expected that level of previous contact with mental illness would correlate significantly with self-reported stigma, and would be used as a covariate in the analysis. To build on previous research, which tended to use only one measure of stigma (e.g., social distance or perceived dangerousness), four aspects of stigma were used in the study, two of which measure the

stigma of mental illness (DD and SDS), and two that assess the stigma associated with seeking help for a mental illness (PSOSH and SSOSH).

## CHAPTER TWO: LITERATURE REVIEW

Link and Phelan (2001) proposed that stigma occurs when differences among people are distinguished and labeled, when certain labeled persons are seen as different, and when those being labeled suffer some discrimination or loss of status. Being labeled with a mental illness, in particular, has been linked to stigmatization. Mental health stigma involves the negative perceptions and opinions held by others (i.e., by the public or by society) that the person needing psychological help is socially unacceptable (Corrigan 1998; 2004a). In his 1999 report, the U.S. Surgeon General stated:

“Stigmatization of people with mental disorders has persisted throughout history. It is manifested by bias, distrust, stereotyping, fear, embarrassment, anger, and/or avoidance. Stigma leads others to avoid living, socializing or working with, renting to, or employing people with mental disorders, especially severe disorders such as schizophrenia” (Satcher, 1999).

Consistent with the Surgeon General’s statement, mental health stigma has been found to lead to several negative effects on the lives of those suffering from mental illness. Rusch et al. (2005) provides a helpful qualitative example of the harmful impact of stigma on one woman’s life:

“Anne is 25 years old and has been hospitalized several times with acute symptoms of schizophrenia. For two years, she had been symptom-free, living on her own, working in a local tourist information office, and enjoying an active social life. Recently though, she had a relapse of her mental illness. She again was hospitalized and it took her two months to recover and to get ready to go back to work again. However, after recovery she realized that getting over her symptoms of her disease did not suffice: Her employer had discharged her because he believed she could have a dangerous outburst in the office due to her mental illness. In addition, her family convinced her that it was too risky to live on her own and made her move back to her parents’ home. Since her family lived in another town, she lost her friends. In summary, despite a good recovery from the symptoms of her mental illness, within a month after discharge from the hospital Anne had lost her job, apartment, and friends” (Rusch et al.; p. 530).

This example shows the serious consequences of mental health stigma, as Anne's experience with mental illness stigma led to loss of friends, job, and apartment. As such, there is a clear need to reduce this stigma. The goal of this study is to investigate the effectiveness of two intervention videos aimed at reducing stigma toward the mentally ill. Specifically, this investigation will examine the effectiveness of watching a video ("personal stories" or "stories from others") on the stigma toward mental illness.

This literature review aims to summarize the relevant research related to stigma toward mental illness, its negative impact, and how to reduce it. First, I will review the research on the negative effects of stigma on both individuals and on family members of persons with mental illness. Second, I will review several strategies for changing stigma with a focus on the impact of personal contact with people with mental illness on the related stigma. Third, I will review studies that used non-experimental methodology to examine the impact of contact on stigma toward people with mental illness. Fourth, I will review studies that employed an experimental design with random assignment to measure the impact of contact (direct and indirect) on mental illness stigma. Fifth, I will review the research on family stigma and interventions studied in this area.

### The Negative Impact of Stigma on Mental Illness

Researchers have examined the negative effects of mental health stigma in several areas including the criminal justice system, loss of opportunities, self-esteem, help-seeking behavior, and friends and family.

*Criminal Justice System.* Mental illness stigma has been linked with negative outcomes in the criminal justice system (Corrigan, 2004a). People displaying symptoms of serious mental illness are more likely to be arrested by the police and tend to spend more

time in jail than people without mental illness (Teplin, 1984; 1990). As more people are arrested for behaviors caused by mental illness, the laws grow harsher, and fewer mentally ill persons receive the help they need (Lamb & Weinberger, 1998). In a review by Lamb and Weinberger, the authors found that 6-15 % of people in city and county jails and prisons, and 10-15 % of people in state prisons, have a severe mental illness. They also reported that many of these people are homeless, a greater proportion of mentally ill people are arrested compared to the general population, and their illness tends to be chronic, acute, and associated with poor functioning. The authors indicated the reasons for the high rates of mental illness as well as the poor recovery include: deinstitutionalization, lack of community support, difficulty gaining access to treatment once they are out of jail, and the negative attitudes of the criminal justice system.

Watson, Corrigan, and Ottati (2004) examined attitudes toward mental illness in police officers. They recruited 382 officers and randomly assigned them to read one of 8 fictional vignettes with descriptions of various people including a person in need of help, a victim, a witness, and a suspect. The vignette characters were either labeled as schizophrenic or no mental health information was provided about the person. Participants then answered questions regarding perceptions toward the individual described in the vignette they were asked to read (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003). The authors found that reading the vignette describing a schizophrenic suspect was associated with increased perceptions of dangerousness as compared to reading a vignette describing a suspect with no related mental health information. Thus, stigma toward mental illness is associated with increased perceptions of dangerousness, negative attitudes of the criminal justice system, and less psychological assistance for the illness.

*Loss of Opportunities.* Mental illness stigma is detrimental to the lives of those with serious psychological problems through its negative impact on public behavior toward persons with mental illness. Corrigan (2004a) discusses the negative impact of stigma through discrimination and loss of social opportunities (Corrigan, 2004a). Discrimination refers to the behavior consequence of such negative views or emotional reactions (e.g., avoidance of mentally ill persons). Researchers have found that those who endorse stereotypes about mental illness are prone to acting in discriminatory ways toward people with mental illness (Fiske, 1993). Similarly, Link (1987) investigated the impact of labeling mental illness as well as the expectation of rejection among people with mental illness. He used a sample of 429 community members and 164 psychiatric patients in New York City. Results demonstrated that being labeled as mentally ill increased the likelihood of loss of income, unemployment, and demoralization. Several studies have found that persons with mental illness are hired at lower rates (Bordieri & Drehmer, 1986; Farina & Felner, 1973; Link; Olshansky, Grab, & Ekdahl, 1960) and unemployment rates for persons with a past or present diagnosis of mental illness are considerably higher than those with no mental illness (Sturm, Gresenz, Pacula, & Wells, 1999).

*Self-Esteem.* Studies also have demonstrated that mental illness stigma harms the self-esteem of persons with serious mental illness (Corrigan, 2004a; Link et al., 2001). Self-esteem is defined as a feeling of decreased personal worth (Corrigan, Faber, Rashid, & Leary, 1999) and often leads to feelings of shame. Research indicates that people with mental illness often internalize society's stigma toward persons with mental illness which negatively impacts their sense of self-worth, self-efficacy, hope for the future (Corrigan, 1998; Holmes

& River, 1998; Link, 1987; Link & Phelan, 2001), and can interfere with one's quality of life and goal attainment.

Link et al. (2001) assessed the negative impact of stigma on the self-esteem of persons diagnosed with mental illness. They recruited 88 members of a program for mental illness in New York and randomly assigned them to either an intervention aimed at increasing coping with stigma or a control group receiving no treatment. Subjects were administered measures of self-esteem, perceived devaluation-discrimination, and stigma-withdrawal at pre- and post-test. Results indicated that greater perceived stigma at pre-test predicted lower self-esteem at follow-up. The authors concluded that stigma is detrimental to the self-esteem of persons with mental illness.

*Help-seeking behavior.* Stigma toward mental illness also negatively impacts mental health treatment use and continuance (Corrigan, 2004a). While as many as 26% of individuals may experience a mental disorder during their lifetime (Kessler, Berglund, Demler, Jin, and Walters, 2005; Kessler, Chiu, Demler, & Walters, 2005), only 30-40% of people with mental illness seek the help they need (National Comorbidity Study; Regier et al., 1993). Among the various reasons for not seeking help, stigma is cited as the most common deterrent to obtaining psychological services when experiencing a mental health concern (Amato & Bradshaw, 1985; Ben-Porath, 2002; Corrigan, 2004a; Deane & Todd, 1996; Vogel et al., 2009; Vogel et al., 2006).

According to Hayward and Bright (1997), negative attitudes toward counseling and the stigma toward mental illness may negatively influence those who suffer from a mental illness and deter them from seeking help. For example, Vogel et al. (2006) found that stigma is a unique predictor of attitudes and help-seeking behavior. In another study, Vogel, Wade,



and Hackler (2007) measured the relationship between perceived stigma, willingness to seek help, and attitudes toward seeking help. Results supported the proposed model that stigma significantly predicted attitudes which then predicted willingness to seek help for a psychological problem. Vogel et al. (2009) further examined perceptions of stigmatization for seeking help for a psychological problem. As hypothesized by the authors, stigma scores predicted attitudes toward help seeking. Thus, mental illness stigma plays a key role in a person's attitudes toward and intention to seek help for a psychological problem.

*Friends and family.* While most of the research in this area has focused on the individual experiencing a mental health concern, recently researchers have started to examine the effects of stigma on those around the individual. Mental illness clearly impacts more than just the person suffering from the illness; it also impacts their families (Chang & Horrocks, 2006; Silver, 1999; Sommer, 1990; Steele, Maruyama, & Galynker, 2010). In particular, family members and significant others of persons with mental illness have been found to suffer stigma associated with their mentally ill family member. Mehta and Farina (1988) first developed the term 'associative stigma,' which is the process by which someone experiences stigma simply due to their association with another stigmatized person. They recruited 120 undergraduates and asked them to consider a hypothetical situation in which their same-sex roommate's father was described as having 1 of 5 possible problems: depression, alcoholism, incarceration, has only one leg, or old and frequently absent. Participants were then asked to judge the roommate's functioning in the area of friends, career, family, and school. Results demonstrated that participants judged the roommates with fathers who were depressed, alcoholic, or incarcerated as having more difficulty functioning than the ones with fathers who were old and frequently absent, or had only one leg. The authors argue these findings

support the construct of associative stigma and the idea that family members or significant others of mentally ill persons may experience stigma due to association with the person with mental illness.

Larson and Corrigan (2008) published a paper describing a similar concept called 'family stigma' and its negative impacts on family members of persons with mental illness. They argue that because family members often play a key role in the life of a person with mental illness and in their treatment, they should be directly involved in the treatment and service plans. Unfortunately, the role of the family in an individual's mental health care and treatment is often negatively impacted by family stigma. Family members, especially parents, are often blamed for their mentally ill relative, which may lead to feelings of shame on the part of the family member. As such, a focus on family stigma may be necessary in order to lessen the negative consequences of the stigma related to mental illness.

In sum, mental illness stigma has detrimental effects on the lives of those suffering from severe psychological problems. As a result, researchers in this area argue for future studies to examine the impact of interventions aimed at diminishing stigma toward mental illness (Corrigan, 2004a). Furthermore, due to the scarcity of research on family stigma, researchers argue for the inclusion of family members' experiences with mental illness in future intervention studies. Focusing on friends and family members may further reduce stigma toward mental illness and may reduce some of its negative consequences (Corrigan, 2004a). The present study examines the effectiveness of two video interventions using personal stories from people with mental illness and their family members on reducing mental illness stigma.

### Changing Stigma Toward Persons with Mental Illness

Given the often detrimental role of stigma on mental illness, researchers have recently begun to argue for stigma reduction programs (e.g., Corrigan, 2004a; Corrigan, River et al., 2001; Pinfold, Thornicroft, Huxley, & Farmer, 2005; Shor & Sykes, 2002). Corrigan argues for the development of anti-stigma programs in order to promote help-seeking among the mentally ill. The U.S. Surgeon General stated: “Stigma must be overcome. Still, fresh approaches to disseminate research information and, thus, to counter stigma need to be developed and evaluated. Social science research has much to contribute to the development and evaluation of anti-stigma programs” (Satcher, 1999). Several mental health organizations, such as the National Alliance for the Mentally Ill, the National Mental Health Association, and the World Health Organization have expressed concerns about the negative consequences of this stigma and have called for interventions and programs aimed at reducing the stigma, prejudice, and discrimination toward mentally ill persons (Corrigan, 2004a). Rusch et al. (2005) reviewed the relevant literature on programs aimed at reducing mental illness stigma and found three main approaches to changing public stigma: protest, education, and contact.

*Protest.* Protest strategies are used to demonstrate the injustices of stigma toward mental illness (Corrigan, 2004a; Corrigan, 2004b). For example, certain statements may be used such as “shame on you for thinking such negative things toward people with mental illness.” Several organizations, such as the National Alliance on Mental Illness (NAMI) have launched anti-stigma campaigns in order to fight stigmatizing conditions. Stigma Busters is a NAMI-sponsored program that protests negative media representations of mental illness in the United States (Rusch et al. 2005). Despite the widespread use of protest in reducing

stigma, little is known about its impact on people's prejudices toward mental illness and most of the positive effects are based on anecdotal evidence (Corrigan, 2004b). Some researchers have found that protest can lead to positive outcomes through suppression of stereotypic thoughts and discriminating behavior (Rusch et al.). However, other studies have found two main issues with the use of protest. First, stereotype suppression requires effort and attentional resources, which may reduce the likelihood that people will learn new disconfirming stereotypes. Second, researchers have shown that protest can lead to a rebound effect where prejudice and stereotypes about a particular minority group actually worsen (Corrigan, River, et al., 2001; Macrae, Bodenhausen, Milne, & Jetten, 1994).

Overall, Rusch et al. (2005) conclude that protest may be helpful in changing public statements, such as those issued by the media, but may be less useful in reducing prejudice toward mental illness. For example, Corrigan, River, et al. (2001) randomly assigned 152 college students to a treatment condition focusing on protest or a control condition. The protest condition contained a 10-minute presentation followed by a 5-minute discussion period. Results indicated that protest led to no significant changes in attributions toward mental illness. The authors discuss the possible reasons why protest had no impact on views of mental illness by citing research by Macrae et al. (1994) that found that attitude suppression often leads to memory rebound because the act of trying to suppress a negative thought or attitude actually makes it more salient in one's working memory. Thus, people in programs designed to use protest to change attitudes often experience no change or are even more likely to recall negative information related to the stigmatized group.

*Education.* Another strategy commonly employed to reduce stigma is education which uses resources such as books, videos, and presentations to provide contradictory

information and dispel commonly held beliefs about persons with mental illness (e.g., seeing them as dangerous; Rusch et al., 2005). While some educational programs have proven successful in reducing stigmatizing attitudes (e.g., Corrigan, River, et al., 2001; Keane 1990; Penn et al., 1994, 1999; Thornton & Wahl, 1996), research assessing the effectiveness of such campaigns suggests some methodological concerns such as lack of a behavioral measure and limited effect sizes. In addition, researchers have argued for careful examination and consideration of the content of the educational programs. Although studies have shown that brief education interventions can lead to attitude change, few studies have been able to demonstrate that the change endures over time (Corrigan, 2004b). Thus, caution is urged when relying on education as a means of reducing stigma toward mental illness (Corrigan, 2004b; Rusch et al.).

*Contact.* The third strategy employed by researchers to reduce stigma toward mental illness is contact. Based on Allport's (1954) contact hypothesis, "close and pleasant interpersonal contact with people from different groups is probably the best way to achieve social harmony" (Hogg & Abrams, 2007, p. 348). Since Allport first formulated the contact hypothesis to improve intergroup relations between different races, it has been extended to mental illness stigma. Thus, researchers have focused on the role of contact in reducing stigma toward mental illness and have found that contact leads to improved attitudes and behavior toward mental illness (e.g., Chinsky & Rappaport, 1970; Corrigan et al., 2002; Desforges et al., 1991; Schulze et al., 2003; Thornicroft et al., 2008).

In the 1950s and 60s, researchers found the contact hypothesis to be effective in reducing negative attitudes toward minority and stigmatized groups. It is now a generally accepted practice: "under appropriate conditions interpersonal contact is one of the most

effective ways to reduce prejudice between majority and minority group members” (Schiappa, Gregg, & Hewes, 2005, p.92). Building on this, researchers began to recognize the need for including contact in attempts to change attitudes toward persons with mental illness. For example, studies consistently reveal that people who are more familiar with mentally ill persons hold more positive attitudes toward them (Corrigan & Watson, 2002). In one of the first attempts to empirically examine the effects of contact on perceptions of mental illness, Hochberg (1963) recruited university students to serve as companions to mentally ill patients for a year. They were asked to meet with their companion patient for one hour per week. Results demonstrated that the program significantly improved attitudes toward mental illness. More recently, researchers have demonstrated that participants of anti-stigma programs involving interaction with a person with mental illness show significant changes in their attitudes (Corrigan, River et al., 2001; Corrigan et al., 2002; Pinfold et al., 2003; Schulze et al., 2003). Despite the fact that several studies have found that contact is an important way to decrease stereotypes and stigma toward mental illness (Desforges et al., 1991; Kolodziej & Johnson, 1996; Pinfold et al., 2003; Schulze et al.), Rusch et al. (2005) argue for further empirical studies examining the strategies and content of stigma reduction programs.

Given the empirically supported importance of contact, the next section of this review will focus on studies that have examined directly the role of contact on reducing mental illness stigma. Such studies have used a variety of ways to measure the impact contact on mental health stigma: asking people about their past experiences with mental illness (i.e., retrospective), randomly assigning participants to read and react to a vignette describing a person with mental illness, asking participants to watch a video of a person with mental

illness, or using in-person interaction with mentally ill persons. The following section provides an overview of these studies and their findings.

### Using Contact to Change Mental Illness Stigma

#### *Non-Experimental Studies of Contact*

*Retrospective studies of contact.* Many studies have used retrospective measures of contact to investigate its impact on stigma and attitudes toward mental illness. Retrospective is the term used to refer to studies in which participants are asked about past contact or familiarity with mental illness. Retrospective studies do not involve actual contact with people with mental illness. While many of these studies have generally found that previous contact with mental illness has a positive relationship with attitudes and negative relationship with stigma toward such persons, some have not. These studies are presented in this section.

Link and Cullen (1986) used a correlational study design to assess the impact of contact with mentally ill on perceived dangerousness. They recruited a sample of 153 participants and administered several measures related to perceptions of dangerousness and previous contact with mental illness. In particular, the researchers examined whether or not the contact was voluntary. The authors developed the Contact Scale to assess level of contact. The scale consisted of seven items such as, “Have you ever known a person who was hospitalized in a mental institution?”. They also measured perceived dangerousness with a 5-item survey (e.g., “If a group of former mental patients lived nearby, I would not allow my children to go to the movie theatre alone”). The five perceived dangerousness items were developed in an attempt to update the Opinions About Mental Illness Scale (OMI; Cohen & Struening, 1962). Results demonstrated that the more types of contact one reported having had with a person with mental illness, the less dangerous they perceived the person to be,

thus supporting and support the hypothesis that contact with mental illness leads to reduced perceptions of dangerousness. The authors argue the results of this study provide evidence that mental illness stigma can be influenced by previous contact with such persons.

Callaghan, Shan, Yu, Ching, and Kwan (1997) tested the effects of the contact hypothesis on 215 student nurses in Hong Kong. Using the Attitudes Toward Mental Illness Questionnaire (AMI; Weller & Grunes, 1988), results did not support the hypothesis that prior contact with mental illness would have an impact on attitudes towards mental illness. The authors propose several explanations for their findings. First, the impact of contact may depend on whether or not it is voluntary. For example, most of the participants in their study had family members with mental illness, thus their contact was not voluntary. Second, the authors suggest that if the relationship with the mentally ill person feels unequal, it may not positively impact attitudes. Lastly, they put forth the idea that the previous contact reported by participants may have been a negative experience which lead to more negative views of mental illness. Study limitations were discussed including reliance on retrospective reports of contact, use of a self-selective sample, and the potential impact of social desirability.

Vezzoli et al. (2001) conducted a study in Italy investigating attitudes toward psychiatric patients. A semi-structured interview was administered to 303 subjects in order to assess relationships between attitudes toward mental disorders and previous contact with psychiatric patients. Results confirmed the hypothesis that retrospective reports of contact with mental illness contribute to more favorable views of such persons. The authors conclude that mental illness stigma may be reduced through increased social interaction with mentally ill persons and psychiatric patients.



Corrigan, Green, et al. (2001) recruited 208 students from a local community college and examined the impact of familiarity with and social distance from people with mental illness on attitudes. The authors used the Level-of-Contact Report (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999) to measure previous contact with persons with mental illness. The measure asks respondents to review 12 situations and indicate their level of familiarity with mental illness in each of the situations. Perception of dangerousness was measured using the Attribution Questionnaire (AQ; Corrigan et al. 2002) containing items such as “How frightened of a person with mental illness would you feel?” Finally, social distance was measured using the Social Distance Scale (Link, Cullen, Frank, & Wozniak, 1987) including items such as “How would you feel about renting a room in your home to a person with serious mental illness?” Results indicated that people who are more familiar with serious mental illness have less fear, associate less dangerousness, and desire less social distance from such persons. The authors conclude that increasing the public’s familiarity with mental illness decreases stigma.

Corrigan et al. (2005) examined how adolescents perceive mental illness and alcohol abuse. They attempted to replicate and validate previous findings that familiarity with people with mental illness can decrease stigma and improve attitudes. They recruited 303 adolescent participants and administered a revised version of the Attribution Questionnaire (rAQ; Corrigan et al.), which measures anger, pity, dangerousness, fear, help, responsibility, and avoidance. The original AQ involved the use of a vignette. In the current study, the vignette was revised to represent a younger character with one of three possible conditions: a general mental illness, a drinking problem, or leukemia. Participants were also asked to complete the Level-of-Contact Report (Holmes et al., 1999) measuring level of previous contact and

familiarity with mental illness. Regarding familiarity, results indicated its impact on stigma was in contrast to that of adults – that the more familiarity they had with mental illness, the more they saw the vignette character with a serious mental health problems as dangerous and as responsible for their illness. Thus, in this study, contact appeared to increase stigma for adolescents.

In general, retrospective studies have shown that prior contact with mental illness improves attitudes toward mental illness. However, some studies did not find that prior contact positively impacted views of mental illness. Retrospective contact precludes the use of random assignment which reduces internal validity because confounding variables may come into play, such as whether or not the contact was voluntary, etc. In reaction to these potential issues, several researchers have used prospective measures of contact in which subjects have contact with persons with mental illness as part of the actual study. Some of these prospective studies used random assignment and some did not. These studies are presented in the next section of this literature review.

*Prospective studies of contact.* Studies have also used prospective measures of contact to assess its impact on stigma toward mental illness. Prospective contact refers to studies in which participants have contact with persons with mental illness as part of their participation in the study rather than being asked about prior exposure to persons with severe psychological problems. Many of these initial studies did not use random assignment. For example, Chinsky and Rappaport (1970) found that student attitudes toward chronic mental patients improved significantly after participating in a hospital companionship program. The authors hypothesized that the experience of volunteering as a companion to a psychiatric patient would improve attitudes toward self and the mental patients. Their hypothesis was

based on past anecdotal findings that students who volunteer to serve as companions to psychiatric patients often experience positive changes in attitudes toward both self and the mentally ill persons after participation in such state hospital projects, (Holzberg, Gewirtz, & Ebner, 1964; Scheibe, 1965). Participants in the student experimental group included thirty University of Rochester college students recruited from an undergraduate seminar and from a community mental health practicum course. Chinsky and Rappaport also used two control groups composed of 30 students each. Students in the treatment condition met twice a week with a group of 8 psychiatric patients for roughly 30 hourly sessions spread out over 5.5 months. Participants were asked to complete an adjective check list in which they endorsed adjectives they typically associate with mental illness. Study findings support the hypothesis that participation in the companionship program would lead to more favorable attitudes (e.g., more healthy, friendly, pleasant) toward persons with mental illness.

Kish and Hood (1974) investigated the impact of voluntarily working with psychiatric patients on attitudes toward mental illness. They measured participants' stereotypes toward mental illness prior to and after 10 weeks of voluntary patient contact. The Nurses Observational Scale for Inpatient Evaluation (NOSIE-30) was used to measure views of the mentally ill persons. Results showed significant improvement in views of mental illness including viewing them as less irritable and more socially competent. In addition, participants rated the psychiatric patients as significantly less dangerous after the voluntary 10-week contact than before.

Weller and Grunes (1988) also examined the impact of contact with mentally ill persons on nurses' attitudes toward mental illness. They recruited three groups of nurses: those with a high level of contact with psychiatric patients, those with a medium level of

contact with psychiatric patients, and those with no contact. They constructed and administered a 30-item Attitude toward Mental Illness questionnaire based on their experience working with mentally ill persons. Their results did not confirm their hypothesis that contact would impact the nurses' attitudes toward mentally ill persons. One important limitation of this study is that, due to lack of random assignment, there may have been initial pretreatment differences between attitudes toward mental illness among nurses who chose to work in psychiatric settings and those who did not.

While many studies using prospective measures of contact with mental illness have found significant effects for improvement in attitudes, a few studies have found more mixed results. For example, Holmes et al. (1999) assessed the impact of a 16-week community college course in Chicago on attitudes toward mental illness and found results contradictory to those from previous studies. They recruited 100 students from two different courses ("Severe Mental Illness and Psychiatric Rehabilitation" and "Introduction to General Psychology") in order to measure the impact of knowledge of mental illness on attitudes toward persons with mental health problems. The course on severe mental illness included a review of the etiology of schizophrenia, treatment for the disorder, and two 60-minute lectures provided by both a person with mental illness and by a family member of someone with mental illness.

The authors hypothesized that having direct contact with persons with severe psychological problems and their family members in a classroom setting would improve attitudes about mental illness (Holmes et al., 1999). Participants were administered several measures both before and after the course including a test of their knowledge of mental illness, an assessment of their previous contact with mental illness (Level-of-Contact Report;

Penn et al., 1994; Roman & Floyd, 1981), and opinions about mental illness were collected as the dependent variable (OMI; Cohen & Struening, 1962). Results indicated that participants with more knowledge and more contact with mental illness before the intervention reported less improvement in attitudes toward mental illness after the course. The authors discuss the lack of random assignment as an important limitation of the study, as participants with contact may have had different perceptions going into the study.

In sum, while several researchers attempted to improve upon previous research using retrospective contact by designing studies of prospective contact, limitations remained due to lack of random assignment. Thus, researchers have also attempted to measure the impact of contact on views of mental illness using direct, in-person contact with persons with serious psychological problems. These studies are discussed in the next section.

### Experimental Studies of Contact

#### *Studies Measuring Direct Contact*

Desforges et al. (1991) looked at the impact of cooperative contact on improving attitudes toward stigmatized social groups. They examined the effects of three types of social contact with former psychiatric patients on attitudes toward mentally ill persons. The conditions involved interaction of university students with a confederate student in scripted cooperative learning, jigsaw cooperative learning, or just studying in the same room as the other person. The jigsaw cooperative learning task was based on Aronson's jigsaw classroom studies where he found that cooperative interaction among people from different social groups lead to more liking of diverse classmates than those not in such classroom environments (Aronson, 1978). Desforges et al. recruited 214 undergraduate students and asked them to complete measures assessing attitudes toward mental illness before and after

participating in the cooperative learning task. Results indicated that students who were initially prejudiced who participated in either of the cooperative conditions reported more positive attitudes and more acceptance of mental patients.

Corrigan, River, et al. (2001) recruited 152 adults from a community college in the Midwest. They used four stigma-changing conditions to which participants were randomly assigned: contact, protest, education, or a control group. Each condition consisted of a 10-minute presentation followed by a 5-minute discussion. Participants in the contact condition heard a presentation by a severely mentally ill person with a 7-year history of psychotic symptoms, suicide attempts, and hospitalization for bipolar disorder. After telling the participants about their history with mental illness, subjects were informed that their presenter was now relatively symptom-free and living a satisfying and independent life. Results indicated that participants in the contact condition showed a significant improvement in attributions toward mental illness over and above that of the education and protest groups.

Corrigan et al. (2002) designed a study examining the impact of attributing either personal responsibility or dangerousness to persons with mental illness on stigma and discriminatory behavior such as not hiring someone labeled as mentally ill. They hypothesized that personal responsibility leads to either pity (if the problem is not seen as the person's fault) or anger (if seen as the person's fault), which both lead to either helping or not helping the person. The authors consider the withholding of opportunities based on someone being a member of a stigmatized group as discrimination. Second, they assert that if one attributes the behavior of another as dangerous, it will lead to fear and then avoidance (Angermeyer and Matschinger, 1996; Levey & Howells, 1995; Link and Cullen, 1986), a behavior also considered discriminatory by the authors of this study.

The authors used a 2 (processes: contact vs. education) X 2 (contents: dangerousness vs. personal responsibility) design to assess the effectiveness of their intervention on reducing stigmatizing attributions and subsequent discriminatory behaviors (Corrigan et al., 2002). They randomly assigned 213 participants to one of five conditions: two conditions involved contact with mentally ill persons, two involved education on mental illness, and one condition involved nothing. Each condition was lead by a single leader with four to eight participants and included a 10-minute presentation and a 5-minute discussion immediately following the presentation. Their design was based on the findings of earlier researchers that short programs can lead to stigma change and significant improvement in attitudes (Corrigan, River et al., 2001; Penn et al., 1994; 1999). The control condition consisted of a presentation on hobbies and technology in the 1990s and was followed by a discussion unrelated to mental health topics. In the condition using contact as the stigma change strategy, the 10-minute presentation consisted of listening to one or two people talking about their personal experience with mental illness. Both persons had suffered from mental illness for at least 10 years, had made a satisfactory recovery, and were highly functioning in terms of maintaining a job and living independently.

Participants were administered the Social Distance Scale (SDS; Link et al., 1987), and the AQ (Corrigan et al., 2002) at pre-test, immediately following the intervention, and one week later. The SDS is considered a proxy measure of behavior since it measures what people say they would do if interacting with persons with mental illness but does not measure actual behavior. In addition, participants in the study were reimbursed 20 dollars after completing the study. They were then informed they could donate the money to the National Alliance on Mental Illness of the South Suburbs (NAMI-SS) and given a receipt with a place

to specify how much they would like to donate. Corrigan et al. used the amount of donated dollars as an index of helping behavior. Results indicated that participants in the condition involving contact with mentally ill persons experienced greater changes on measures of attribution and helping behavior (e.g., amount of money donated) than those who had no contact. In particular, fear, dangerousness, and avoidance factors all significantly improved significantly as compared to the group that only received education on mental illness but no direct contact with mentally ill persons.

Shor and Sykes (2002) used an intervention called “Structured Dialogue” to encourage students to interact with people with mental illness in a more positive and less stigmatized way. They recruited 185 students and asked staff to facilitate Structured Dialogue meetings in 15 social work classes at the School of Social Work at the Hebrew University in Jerusalem. Each meeting involved two presenters, one who talked about personal experiences with mental illness, and the other who introduced the Structured Dialogue model. After a 30-40 minute presentation, the other presenter opened up the meeting to a question and answer session. Participants were administered an attitude questionnaire before and after the presentation as well as a structured dialogue questionnaire, which was constructed for this study. Results indicated no significant attitude change from pre-test to post-test. However, in open-ended responses to the presentations, students reported they appreciated the chance to gain a better familiarity with the mentally ill person’s experience and humanity. They also reported better understanding the world of people with mental illness. The authors attribute their lack of significant findings to the one-time intervention, suggesting future studies focus on longer term impact of Structured Dialogue on changing attitudes toward mental illness.



Pinfold et al. (2003) designed a study aimed at reducing psychiatric stigma and discrimination by using an educational intervention in United Kingdom secondary schools. This study focuses on two of the main strategies for addressing stigma toward mental illness: contact and education (Corrigan, River et al., 2001). The authors examined the impact of “real world interventions” (Pinfold et al.; p. 342) on reducing negative stereotypes toward mental illness as well as increasing knowledge about mental illness. They achieved a response rate of 74% with 472 students completing pre-test and post-test measures. Phase I of the project involved a mental health awareness workshop delivered by a facilitator from the mental health field. Phase II involved sessions that were co-facilitated by someone with a mental illness. Thus, in this phase the lesson plans from Phase I were used but the person delivering the lessons had personal experience with mental illness and would share his or her experiences with students through a short presentation followed by the chance for the students to ask questions. Results indicated that participation in the contact condition contributed to reduction in social distance at the 1-week follow-up. In addition, participants who reported they had had prior contact with persons with mental illness reported a significant positive change in attitudes. Thus, the intervention was more impactful on students who knew someone with mental illness than on students who did not. The authors argue for additional studies examining the role of personal contact on attitudes and stigma toward mental illness.

Schulze et al. (2003) recruited 90 students from five secondary schools in Germany and examined the effects of an intervention on attitudes toward people with schizophrenia. The goal of the study was to reduce the stigma associated with schizophrenia. The school program ‘Crazy? So what!’ was part of the World Psychiatric Association’s Global Program

against stigma and discrimination toward schizophrenia. It consisted of a weeklong program including personal contact with someone with schizophrenia and emphasized the similarities between students and persons suffering from schizophrenia, general education on the importance of mental health, information dissemination, and discussion of the stigma resulting from schizophrenia. The authors aimed to assess the effectiveness of personal contact on altering stigma and discrimination toward people with schizophrenia. Participants were administered measures of stereotypes of schizophrenia (e.g., “Someone who has had schizophrenia cannot cope with stress before exams”) and a scale measuring social distance created for this study (e.g., “I would be afraid to talk to someone who has had schizophrenia”). Results demonstrated that students’ stereotypes about people with schizophrenia were positively affected by the program (Schulze et al., 2003). The school program also positively influenced their willingness to interact with persons with schizophrenia. In addition, attitudes one month later continued to demonstrated the attitude change found at post-test.

Similarly, Wallach (2004) attempted to use exposure to persons with mental illness to change attitudes among 52 students enrolled in an introductory psychology course. Building on the evidence that experience with mental illness is a crucial ingredient to attitude change (Angiullo, Whitbourne, & Powers, 1996; Drolen, 1993; Keane, 1991), students were required to visit a mental health institution as part of the course and were asked to rate their opinion of mental illness (OMI; Cohen & Struening, 1962). Results demonstrated that students who *worked with* mentally ill showed more positive attitudes at the end of the year, however those who *only visited* mentally ill persons did not show such improvement (Wallach). Findings

from this study suggest that prolonged exposure to people with mental health problems is likely most effective at reducing such stigma.

Pinfold et al. (2005) evaluated the effectiveness of a program designed to raise awareness of mental health issues to the community. They targeted several key groups including students, police officers, and working adults. The students received two 50-minute presentations, the adult groups received two 2-hour sessions, and the police group received two mental health awareness workshops each 2 hours in duration. The researchers measured knowledge, attitudes, and behavioral intentions at pre-test and follow-up. They also conducted focus groups to examine the effects of stigma toward mental illness. Results indicated personal contact was a significant predictor of positive changes in attitudes and knowledge about mental illness for the school students but not for the police or working adults. However, all groups reported the key element to the presentations was testimonies of mental health service users.

Couture and Penn (2006) argue that many studies looking at the effects of contact on stigma reduction have been conducted in artificial settings such as classrooms or laboratory settings, which may not extend to the real world context of interacting with persons with mental illness. Thus, they wanted to improve upon this limitation by measuring the impact of naturalistic interpersonal contact on stigma. Their method for providing the contact was through a volunteer program called Compeer, which paired volunteers from the community with people with mental illness. They recruited three groups of participants including 36 Compeer volunteers, 24 persons volunteering for the Association for Retarded Citizens (ARC) and 38 people not currently involved in any volunteer program. Volunteers were recruited using fliers, presentations at various organizations, and mailings. Several measures

were administered to the participants including the Social Distance Scale (SDS; Link et al., 1987) measuring desired social distance from persons with mental illness, the Dangerousness Scale, the Affect Scale (Penn et al., 1994) measuring emotional reactions to mentally ill persons, the Contact Scale (Link & Cullen, 1986) measuring previous contact with mental illness, the Bond Subscale of the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) measuring the relationship between the paired volunteer and mentally ill person, and the Prosocial Personality Battery (PSB; Penner, Fritzsche, Craiger, & Freifeld, 1995) measuring orientation to empathy and helpfulness.

The Contact Scale was administered at pre-test only while the SDS, DS, and AS were administered at pre-test and at 6 months (Couture & Penn, 2006). Additionally, Compeer volunteers were administered the WAI bond subscale at 6 months and all participants responded to the PSB at 6 months. Participants were assigned to have weekly contact with a person with mental illness over a 6-month period of time. The authors hypothesized that participants in the Compeer program would experience significant reduction in stigmatized attitudes after prolonged interaction with persons with mental illness. They also hypothesized that the relationship between the pair, thus the quality of the contact as assessed by the bond measure of the WAI, would be more predictive of attitude change than contact without a good relationship.

The authors conducted a 3 (group) X 2 (time) MANOVA, with repeated measures for time, on social distance, perceived dangerousness, and affective responses and found no significant main effect for time or for the interaction between time and group (Couture & Penn, 2006). Through additional analyses conducted, such as a separate 3 (group) X 2 (time) ANOVA, with repeated measures on time, for dangerousness, social distance, and affective

response variables, Couture and Penn report some preliminary support for the relationship between prospective contact and a reduction in negative affective reactions to persons with mental illness. Authors discuss limitations including the fact that participants were able to self-select to their volunteer groups and suggest future studies use randomized, controlled designs. Worth noting is the fact that this study claims to measure stigma yet includes no direct measure of stigma. Rather, it uses the Social Distance Scale (Link et al., 1987) which is actually a proxy measure of behavior. They also measured perceptions of dangerousness, which is not a direct stigma measure and neither actually include the word “stigma.”

As reported above, several studies have looked at the impact of direct interpersonal contact on views of mental illness. In general, findings support the effectiveness of direct contact. Pinfold et al. (2005) stated that “the single most important factor for influencing public attitudes and behavior toward people with mental health problems is reported to be personal contact with someone with mental health problems” (p.124). However, direct contact is often not feasible, hard to deliver to large groups of people, and in certain situations, can lead to opposite effects (i.e., stereotype confirmation). As such, researchers have also examined the effectiveness of indirect contact through vignettes, performances, and videos. Indirect contact can have the advantage of reaching more people (e.g., through an online video) and provide a more controlled intervention than using real people, for example. The following section will describe some studies using indirect contact.

#### *Studies Measuring Indirect Contact*

*Vignette studies.* Several studies assessing the effects of contact on stigma toward mental illness have used vignettes to simulate indirect contact. Vignettes are short stories depicting characters that may or may not have a mental illness. For example, Arkar and Eker

(1992) investigated the effect of having a mentally ill family member in the hospital on attitudes toward mental illness. They sampled two groups, those with a mentally ill family member and those without (the no-exposure and exposure groups). Participants were presented with a short vignette describing a particular type of mental illness followed by 25 questions measuring social distance and expected burden of associating with a mentally ill person. Two vignettes were used, one portraying a person with paranoid schizophrenia and one with anxiety neurosis/depression. Results showed that having a hospitalized family member with mental illness had no impact on social acceptance yet the type of psychopathology portrayed in the vignette did. Thus, the participants predicted a better course of treatment for the anxiety neurosis/depression vignette than the paranoid schizophrenia vignette. The authors conclude there is more to be learned about the relationship between exposure to mental illness and related attitudes. It is also important to note that Arkar and Eker used retrospective contact, that is, examined past or current contact with mental illness rather than randomly assigning participants to have future contact with persons with mental illness.

Penn et al. (1999) designed a study to reduce stigma toward persons with schizophrenia. They recruited 182 undergraduate students from the Illinois Institute of Technology and randomly assigned them to one of four conditions, each asking the participants to read an information sheet about schizophrenia. The sheets involved varying levels of information from no information on schizophrenia to specific information on violence and dangerousness associated with this disorder. After reading the information sheet, each subject was provided with one of two vignettes. The vignettes depicted a person (either male or female) with schizophrenia. Each vignette was identical other than biological

sex. After reading the information sheet and vignette, participants were given a number of measures assessing previous contact and perceived dangerousness. Results indicated that previous contact and amount of information provided about schizophrenia decreased participants' views of dangerousness for both persons with schizophrenia and people with mental illness in general. While this study did not directly use measures of stigma, measures of dangerousness can be seen as extensions of mental illness stigma. The authors argue for future research examining stigma in general and not just dangerousness. One limitation of this study is its use of retrospective contact rather than using random assignment to include actual contact with people with mental illness as part of the study.

Ingamells, Goodwin, and John (1996) presented 208 participants over the age of 18 with one of four vignettes depicting a character living in either a psychiatric hospital or in the community with either disturbed or controlled behaviors. They then administered the Social Distance Scale (Link et al., 1987) and asked participants about their previous level of personal contact with mental illness (e.g., acquaintance, work colleague, close friend). Results indicated the type of behavior described in the vignette, as well as previous contact with mentally ill persons, significantly impacted social rejection such that more previous contact and controlled behavior contributed to less social rejection while less previous contact and disturbed behaviors were associated with more social rejection.

Alexander and Link (2003) recruited a nationally representative sample of 1507 respondents and asked 640 of them to read a vignette of a person with mental illness. They were then asked to answer questions about desired social distance from the vignette character and perceived dangerousness. Participants not asked to read a vignette were administered questions about prior contact with mental illness and perceived dangerousness. Results

indicated that amount of previous contact with people with mental illness was negatively related to general perceptions of dangerousness (Alexander & Link, 2003). In other words, participants with more contact with mental illness perceived such persons as less dangerous. Second, the authors found that greater prior contact led to decreased perceived dangerousness and desired social distance from the vignette character. The authors also found that type of contact also predicted dangerousness and desired social distance. For example, prior family and public contact with mental illness significantly predicted perceptions of dangerousness and desired social distance from the vignette character while contact with a friend or spouse with mental illness did not. Alexander and Link discuss the possible reasons for this difference, suggesting that contact type may impact stigma toward mental illness. However, they also suggest that their analyses may have lacked power to detect a significant relationship between stigma measures and all the types of contact included in the analysis. They state that a conclusion about contact type cannot and should not be drawn from their findings. In conclusion, the authors suggest future studies investigate the impact of stigma reduction programs involving contact with people with mental illness such as televised public service announcements or school presentations.

*Video studies.* Researchers have also used the media to facilitate contact through videotaped stories of personal experiences with mental illness (Wahl, 1995). One argument for the use of the media is that it is a more efficient way of reaching more people and spreading a message (Reinke et al., 2004). In fact, Schiappa et al. (2005) proposed the Parasocial Contact Hypothesis (PCH) as an analogue to Allport's (1954) Contact Hypothesis. Two years after Allport's book on the Contact Hypothesis was published, Horton and Wohl (1956) put forth an argument for parasocial interaction: "One of the most striking



characteristics of the new mass media – radio, television, and the movies – is that they give the illusion of face-to-face relationship with the performer” (p.215). Schiappa et al. argued that if communication resulting from exposure to mass media produces similar results to interpersonal interaction, it is possible that parasocial contact may mimic actual interpersonal contact. They review the extant literature on the parasocial contact in the media and report that it is typically linked to reduced prejudice toward gay men. In addition, they report that the components of PCH were generally supported. As such, researchers have started to examine if contact via video is as effective as in-person contact in changing mental illness stigma.

Penn et al. (2003) conducted a study assessing the effectiveness of a documentary film on stigma toward schizophrenia. Participants included 163 undergraduate students at the University of North Carolina-Chapel Hill. They were randomly assigned to one of four conditions: no film, documentary film about polar bears, documentary about fears of being overweight, and a documentary about schizophrenia. Film length ranged from 43 to 70 minutes and used both presentation of scientific information as well as personal testimonials or observation of polar bears. Penn et al. collected pre-test and post-test data on participant mood (Positive and Negative Affect Scale; PANAS; Watson, Clark, & Tellegen, 1988), how much participants enjoyed the film they watched (Film Rating Form; FRF; Penn et al.), desired social distance (Social Distance Scale; SDS; Link et al., 1987), and perceived dangerousness (Dangerousness Scale; DS; Link et al., 1987). Participants were also asked to report their level of interest in attending a focus group meeting with people with schizophrenia.

The authors conducted two multivariate analyses of variance (MANOVAs) to assess the impact of the documentary on stigma toward persons with schizophrenia (Penn et al., 2003). Against predictions, results indicated that participants who viewed the film about schizophrenia did not report significantly more positive attitudes (e.g., less dangerousness) than those in the other conditions. In addition, the film did not increase participants' desire to interact with schizophrenic persons. However, study findings did demonstrate that the documentary resulted in more benign attributions (i.e., tendency to blame such individuals for the disorder) yet did not produce significant improvement in attitudes (i.e., perceived dangerousness) toward people with schizophrenia. The authors argue the study findings demonstrate that a film can affect attributions about mental illness. They further discuss how the use of an educational strategy alone, with no contact with persons with mental illness, may be the reason why the documentary did not produce significant changes in attitudes toward people with schizophrenia. They also cite the use of only undergraduates in their sample as a contributor to the lack of significant findings.

The In Our Own Voice program is sponsored by the National Alliance on Mental Illness (NAMI) and is aimed at using contact with people with mental illness to reduce stigma and improve attitudes toward mental illness. It consists of a 90-minute standardized program involving interaction of persons with mental illness with the audience. Wood (2004) recruited 114 college students and randomly assigned them to either the treatment condition where they saw the IOOV or a control condition involving a lecture on a career in psychology. Results demonstrated that participants in the treatment condition who saw the IOOV performance experienced significantly more improvement in stigmatizing attitudes toward mental illness than those in the control condition.

Reinke et al. (2004) examined the manner in which contact is established (in-person versus video) as well as the level of stereotype confirmation produced by the contact. Participants ( $N = 164$ ) were randomly assigned to one of five conditions: live contact that moderately disconfirms stereotypes toward mental illness, videotaped contact with moderate disconfirming information, videotaped contact with high disconfirmation, videotaped contact with little or no disconfirmation, and a control group involving no stigma-changing treatment. Participants were divided into groups of 4-8 and given a 10-minute presentation by a single leader followed by a 5-minute discussion period. The treatment conditions were purposefully designed as brief based on the findings of earlier research demonstrating the effectiveness of short stigma reduction programs (Corrigan et al., 2002; Penn et al., 1994; 1999). The in-person contact condition consisted of a formal presentation by someone with schizoaffective disorder discussing his 20-year history of multiple hospitalizations, suicide attempts, and long recovery periods. The person also discussed having made a successful recovery and now lives a satisfying, independent life. Three videotaped presentations were developed for the study using the same person from the in-person contact conditions in a sit-down interview. Everything remained constant other than the person's discussion of the impact of mental illness on his life and his recovery.

The authors administered the Social Distance Scale (SDS; Link et al., 1987) as a proxy measure of behavior and attitudes toward mental illness (Reinke et al., 2004) and included items such as "How would you feel about renting a room in your home to a person with severe mental illness?" Study findings showed that watching a video of a person talking about experiences that either moderately or highly disconfirm the stereotype, lead to significant improvement in attitudes. Similar to other studies, the authors also reported that

although the in-person results were stronger and led to more significant change in desired social distance, no significant differences were found between the two groups. Thus, the medium of contact did not make a significant difference on stigma toward mental illness. The authors conclude by discussing limitations of the study, such as the sample being comprised of mostly females, and urge researchers to conduct more studies examining ways to reduce mental illness stigma, stating “Research like this is necessary to inform advocacy groups about approaches that lead to improvement in public attitudes and behavior” (p.387).

Faigin and Stein (2008) also attempted to examine the manner in which contact occurs, either live or videotaped. They assigned 303 undergraduates to one of three conditions: live theatrical performance about mental illness stigma, a videotaped performance, or a no-treatment control group. The live theatrical performance was performed by actors with mental illness and represented an original work directly addressing stigma toward mental illness and recovery. The videotaped condition watched a videotaped version of the same live performance as the other condition. Faigin and Stein then measured attitudes toward mental illness with the Community Attitudes Toward the Mentally Ill (CAMI; Taylor & Dear, 1981) which is comprised of four scales: Authoritarianism, Benevolence, Community Mental Health Ideology, and Social Restrictiveness. Behavioral intentions were measured with the Behavioral Intentions Scale for Students (BISS; Faigin & Stein) which included 7 items measuring willingness to engage in future contact with mentally ill persons (e.g., “I would be willing to pair up in a class project with a fellow student who lives with a mental illness”, “If a classmate told me she/he was having difficulties related to a mental illness, I would help them contact a facility where they could get assistance.”

They measured participants' affective responses to the theatrical performance (Faigin & Stein, 2008) with the Presentation Rating Form (PRF; adapted from Penn et al., 2003's Film Rating Form). In addition, they measured prior level of contact with persons with mental illness with the Level-of-Contact Report (Holmes et al., 1999) including items such as "I have a serious mental illness," "I have never observed a person that I was aware had a serious mental illness." Social desirability was measured using the Marlowe-Crowne Social Desirability Scale (MCS-8; Greenwald & Satow, 1970) and prior experience with theatrical performances. As predicted, both the live and the videotaped groups showed significant changes on the attitudes and behavioral intentions measures. However, participants assigned to the live group reported the greatest decrease in stigmatizing attitudes and increase in behavioral intentions. The authors concluded that both live and videotaped forms of contact are effective in changing mental illness stigma.

#### Interventions Focusing on Family and Friends

Most interventions have focused on contact with the individual experiencing a mental illness (e.g., showing a video or interacting with someone with schizophrenia). However, as noted previously, family members and friends may also experience the negative impact of mental illness stigma due to being close to or related to a person with mental illness (Chang & Horrocks, 2006; Silver, 1999; Sommer, 1990; Steele et al., 2010). One way to combat this type of stigma may be for people to see how friends and family members of persons with severe psychological problems cope with the illness and the stigma associated with it. In other words, interacting with someone who has experienced what it is like to be a family member or friend of someone with a mental illness could also reduce stigma. For example, regarding psychiatry training, some researchers have argued that creating opportunities for

students to interact with family members of people with mental illness may help reduce family stigma by increasing understanding of the negative impact on families (Larson & Corrigan, 2008). As such, researchers have started to develop interventions to reduce family stigma. Specifically, two studies have programs with this focus: The Family-to-Family Education Program and the Provider Education Program.

The Family-to-Family Education Program uses a standardized curriculum and is geared toward persons who provide care for mentally ill family members (Larson & Corrigan, 2008). Sponsored by NAMI, the program was developed in the early 1990s by Joyce Burland and is unique in that it uses family members to conduct the training. The course aims to provide information about mental illness, teach skills such as how to cope, problem solve, and communicate more effectively. The program has had over 100,000 participants (Larson & Corrigan). Dixon et al. (2001) conducted the first study assessing the Family-to-Family Education Program and its effectiveness. They recruited 37 family members and administered measures at several time points including pre-test, post-test, and follow-up. Participants were assessed on their subjective burden (e.g., worry) and objective burden (e.g., supervision of mentally ill family members) as well as self-esteem, sense of mastery, social network, depression, physical health, and empowerment. Results indicated that participation in the Family-to-Family Education Program contributed positively to family members' empowerment and reduced their subjective burden by decreasing worry.

Mohr, Lafuze, and Mohr (2000) assessed the Provider Education Program, a program also sponsored by the National Alliance on Mental Illness (NAMI). The goal of the program is to shift the focus of mental illness from the causes to the effects on both mentally ill persons as well as on their families. It is aimed at empowering caregivers, family members,

and persons with mental illness to work together. It targets all employees of mental health agencies from the professional providers (e.g., doctors, nurses, case managers, therapists) to the staff (e.g., administration, management). The program consists of 10 weeks of presentations by two persons with mental illness, two trainers, and a mental health professional who is either a consumer of mental health services or a family member of a person with mental illness.

Based on the preliminary work on the concept of family stigma described previously, it appears that a person's mental illness has a profound impact on significant others and family members in terms of financial, emotional, and social well-being. More specifically, having a family member with mental illness has been found to be associated with stigma for the family member as well. Thus, it would be a logical extension of the literature to examine the impact of personal contact with family members of mental illness on the associated stigma. In particular, hearing directly from family members may help people understand the experience of mental illness as well as the importance of providing support to mentally ill individuals. However, it appears that very few programs have been designed to reduce family stigma or to use family stories of mental illness and contact with family members of mentally ill persons in order to reduce overall mental illness stigma. Next, I will describe the current intervention study that will test the effectiveness of indirect contact (video presentation) on reducing mental illness stigma.

### Current Study

Indirect personal contact (e.g., video) has been found to have a significant impact on reducing stigma toward mental illness. The current study extends this work by examining the potential effects of indirect contact with people with mental illness to reduce the stigma

toward such persons. In addition, I aim to build on previous studies by measuring four aspects of stigma (i.e., devaluation and discrimination, social distance, cognitive responses to people for seeking help, and perceptions of others' character for seeking help). Participants assigned to the personal stories treatment group saw an online video of people giving testimonies of their personal experience with mental illness. The "stories from others" video condition involved listening to personal testimonies from both people with mental illness and from their family and loved ones talking about the importance of support from others in recovering from mental illness. A control video was also used which depicted the story of a woman battling breast cancer.

I hypothesized that watching an online video of people talking about their personal experiences with mental illness ("personal stories") or their personal experiences supporting a loved one with mental illness ("stories from others") would reduce the stigma and negative views of such persons as compared to watching the control video about a woman's experience overcoming breast cancer. Participants were also assessed at three time points (pre-test, post-test, and 1-week follow-up). Thus, a Time X Condition interaction was predicted such that participants who watched either of the treatment videos ("personal stories" or "stories from others") would experience greater reduction in stigma and improvement in views of persons with mental illness than participants in the control condition from Time 1 (pre-test) to Time 2 (post-test) and from Time 1 (pre-test) to Time 3 (follow-up).

Four stigma measures were used in the study, two of which measure the stigma of mental illness (DD and SDS), while the other two assess the stigma associated with seeking help for a mental illness (PSOSH and SSOSH). Therefore, I predicted that watching one of



the treatment videos would produce changes in each of the assessed aspects of stigma. Specifically, the videos would decrease participants' discriminatory views of and tendency to devalue persons with mental illness, would decrease their desire for social distance from and willingness to accept people with mental illness in various roles (e.g., renting a room to them or employing them), would lead to more positive cognitive reactions to persons with mental illness for seeking treatment for their problems, and would improve participants' views of such persons' character (i.e., see them as intelligent, see them as adequate). Finally, it was expected that level of previous contact with mental illness would correlate significantly with all four of the stigma measures, and therefore, this variable was expected to be included as covariate in the analyses.

## CHAPTER THREE: METHOD

*Participants*

Participants were 316 psychology undergraduate students. Over one-half of participants were female (63.3%). More than half of all participants were also freshman (52.7%), with the remaining students identifying as sophomore (27.2%), junior (13.3%), senior (5.7%), and graduate student (.9%). Participants self-identified as European American (90.5%), Asian American (3.2%), Latino American (1.6%), Multiracial American (1.3%), International Student (1.3%), Black (.6%), African American (.3%), Native American (.3%), or Other (.6%). The proportion of students from various racial and ethnic identities was representative of this university's undergraduate student population (data received from Iowa State University Registrar's office in reference to Fall 2010 student demographics): 90.9% White and Other (includes all foreign students and white U.S. citizens, immigrants, and refugee students), 2.83% Asian, 2.76% Hispanic/Latino of any race, 2.63% Black, .58% two or more races, .24% American Indian or Alaskan Native, and .03% Native Hawaiian or Other Pacific Islander. Fifteen percent of participants reported having suffered from a mental illness themselves.

*Measures*

*Stigma.* Stigma was assessed with four different stigma scales including two of the most commonly used stigma of mental illness scales that largely assess stigmatizing behaviors of those with a mental illness: Devaluation-Discrimination (DD; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989) and the Social Distance Scale (SDS; Penn et al., 1994). Two additional stigma measures were included. The Perceptions of Stigmatization by Others for Seeking Help (PSOSH; Vogel et al., 2009) was used to assess participants'

cognitive responses to people for seeking help for a mental illness. The Self-Stigma of Seeking Help (SSOSH; Vogel et al., 2006) was included to assess participants' perceptions of one's character for seeking help for a mental illness. Thus, the DD and SDS were direct measures of stigma towards persons with mental illness while the PSOSH and SSOSH were measures of stigma associated with seeking help for a mental illness.

The DD scale measures endorsement of items reflective of perceived discriminatory behaviors of individuals with mental illness. It consists of 12 items, half of which are reverse scored. Responses are measured on a 5-point scale ranging from 1 (*not at all*) to 5 (*a great deal*). Items from the DD include "Most people would willingly accept a former mental patient as a close friend" and "Most people would believe that a person who has been in a mental hospital is just as intelligent as the average person." Link et al. (1989) found internal consistency of .76 from a sample of 541 participants consisting of both community residents and psychiatric patients. Additional studies have found reliability (alpha) between .72 and .88 among outpatient participants (e.g., Alvidrez, Snowden, Rao, & Boccellari, 2009; Vauth, Kleim, Wirtz, & Corrigan, 2007). In previous studies, the DD is correlated with other stigma measures including Link and Phelan (2001)'s Stigma-Withdrawal Scale ( $r = .36, p < .001$ ; Vauth et al., 2007) and Link and Phelan (1989)'s Stigma-Secrecy Scale ( $r = .38, p < .001$ ; Vauth et al.). The wording in the items was altered for the current study in order to capture how the individual taking the survey would respond to someone with a mental illness (Most people was changed to I). Sample items include "I would willingly accept a former mental patient as a close friend" and "I would believe that a person who has been in a mental hospital is just as intelligent as the average person." Similar reliability was found in the current study with a coefficient alpha of .87 at pre-test (see Table 1 for alpha coefficients by

time point). In addition, the DD correlated with other stigma measures in this study such as SSOSH ( $r = -.62, p < .01$ ) and the SDS ( $r = .73, p < .01$ ).

The SDS (Link et al., 1987) has 7 items and uses a 4-point scale ranging from 1 (definitely unwilling) to 4 (definitely willing). It assesses respondents' willingness to accept people with mental illness in various roles (e.g., as a landlord; as a neighbor). In other words, the scale asks for self-report accounts of how a participant might interact with a person with serious mental illness. Sample items include "How would you feel about renting a room to someone with a mental illness?" and "How would you feel about having someone with a mental illness as your neighbor?" Internal consistency for this scale ranges from .75 - .76 among college student samples (Penn et al., 1994; Corrigan et al., 2002). In previous studies, the SDS is correlated with other stigma measures including the Dangerousness Scale ( $r = .46, p < .01$ ; Link et al.), and the Affective Reaction Scale ( $r = .42, p < .01$ ; Link et al.). In the present study, the coefficient alpha was .90 at pre-test (see Table 1 for alpha coefficients by time point). In addition, the SDS correlated with other stigma measures in this study such as SSOSH ( $r = -.49, p < .001$ ) and the DD ( $r = .73, p < .001$ ).

The PSOSH (Vogel et al., 2009) was used to measure the stigma associated with how participant would cognitively respond to others for seeking help for a mental illness (e.g., think bad things of them). It has 5 items and uses a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*a great deal*). Scores are summed so that higher scores represent greater stigma. The PSOSH originally asked participants to rate the degree to which they believe other people would react to them in a certain way for seeking professional help (Vogel et al., 2007). Sample items include "React negatively to you" and "Think bad things of you." However, because this study focuses on how people view others with a mental illness,

instructions were altered to ask participants to consider how they would react to someone else if they sought treatment for a psychological problem rather than if they themselves had sought psychotherapy. Specifically, instructions stated: “Imagine you knew someone (e.g., friend, family member) who sought treatment with a mental health professional. If they sought mental health services, to what degree would you....(think bad things of them)?” The PSOSH was developed by Vogel et al. (2009) across 5 college student samples and internal consistency for the 5-item scale ranged from .78 - .91. In addition, in previous studies, the PSOSH is correlated with other stigma measures including the SSOSH ( $r = .37, p < .001$ ; Vogel et al., 2009) and the DD ( $r = .20, p < .001$ ; Vogel et al., 2009). With the change in wording, the coefficient alpha for the present study (.86) was still in the range of previous studies (see Table 1 for alpha coefficients by time point). In addition, similar to previous studies, the PSOSH was found to correlate with other measures of stigma including the SSOSH ( $r = .56, p < .001$ ) and the DD ( $r = -.47, p < .001$ ).

Finally, the SSOSH (Vogel et al., 2006) was used in the current study to assess the stigma associated with how participants would perceive others’ character (e.g., feel they were weak or inadequate) for seeking help for a mental illness. The SSOSH is a 10-item 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Scale point 3 represents agree and disagree equally. The SSOSH has no subscales and items 2, 4, 5, 7, and 9 are reverse-scored so that higher scores reflect more stigma. Traditionally, the scale asks how an individual would feel about his or her own character for seeking psychotherapy. A sample item is “I would feel inadequate if I sought professional help.” Because this study focuses on how people view others with a mental illness, items were altered to ask participants to consider how they would feel about someone else if they sought help for a

psychological problem. Sample items include: “I would feel they were inadequate if they went to a therapist for psychological help” and “My confidence in them would NOT be threatened if they sought professional help.” With the original version, Vogel et al. found internal consistency estimates between .86 to .90 and two-week test-retest reliabilities of .72 among college samples. Vogel et al. also found the SSOSH to correlate highly with the Attitudes Toward Seeking Professional Psychological Help (ATSPPH) ( $r = -.53$  to  $-.63$ ) and Intention to Seek Psychological Help ( $r = -.32$  to  $-.38$ ). In the present study, the modified version had similar coefficient alpha (.87) to past studies conducted using the original version (see Table 1 for alpha coefficients by time point). In addition, in the current study, the SSOSH was also found to correlate similarly with other stigma measures such as the PSOSH ( $r = .56, p < .001$ ).

*Behavioral measure.* Participants were asked the following yes/no question to measure willingness to interact with persons with mental illness, “Would you be willing to come in and meet with a group of mentally ill individuals for a discussion about the experience of being mentally ill?” While not a direct measure of behavior, this item is intended to capture behavioral intentions.

*Contact with Mental Illness.* The Level-of-Contact Report is a 12-item scale developed by Holmes et al. (1999) and measures prior exposure to and contact with mental illness. The items describe varying levels of contact with an individual with mental illness from “I have a mental illness” to “I have never observed a person that I was aware had a serious mental illness.” Participants are instructed to place a check mark next to each statement that is true for them. The index for level of contact is the rank score of the most intimate situation indicated. For example, if a participant checked “I have a mental illness”

(rank order score = 11), “I have watched a movie or television show in which a character depicted a person with mental illness” (rank order score = 3), and “My job involves providing services/treatment for persons with mental illness,” (rank order score = 7) he or she would receive a score of 11 because “I have a mental illness” is the most intimate of all the endorsed situations. The authors asked three experts in the field of severe mental illness and psychiatric rehabilitation to rank the situations regarding intimacy of contact. The mean of rank order correlations summarizing inter-rater reliability was .83 in the original sample (Holmes et al.). According to Corrigan, Green, et al. (2001), this scale offers increased statistical power over past categorical measures that simply asked participants if they knew someone with a mental illness.

### *Procedures*

Study procedures are included in a flow-chart in Appendix A. IRB Approval for this study was obtained before beginning data collection (see Appendix F). Participants were undergraduate psychology students at a large Midwestern university. This was a completely online study consisting of three parts.

*Part 1: Pre-test.* For the pre-test, participants filled out the Psychology Department’s Fall 2009 Mass Testing online survey. Mass Testing is conducted each semester and includes a number of scales submitted by researchers in the Psychology Department. Before responding to the items on the test, participants were asked to read and sign an informed consent document. Next, participants were asked to respond to questions including the DD, SDS, PSOSH, SSOSH, demographic variables (i.e., biological sex, ethnicity/race, relationship status, year in school), previous level of contact with mental illness, and whether or not they had ever suffered from a mental illness (see Appendix D). Participants were also

asked (yes/no) if they would be willing to come in and meet with a group of mentally ill individuals for a discussion about the experience of being mentally ill. After taking the survey, participants were asked to read a debriefing document explaining the purpose of the study (see Appendix E). Participation in any part of the Psychology Department's Mass Testing data collection was voluntary and participants received research credit in their psychology class.

*Part 2: Video intervention and post-test.* After completing Mass Testing, participants were randomly assigned to one of three conditions ("personal stories", "stories from others", or control). In order to randomly assign participants, the random number generator was used in Microsoft Excel which assigned each participant a random number. They were then sorted by this number and split into three groups. One group was assigned to the "personal stories" condition, one assigned to "stories from others," and one assigned to the control condition. Participants were then contacted by email, informed of the study, and invited to sign up online (through SONA) in order to participate. From SONA they were directed to a website and provided with the informed consent document (see Appendix C) which explained that the study was completely online and consisted of watching a 15-minute online video and completing an online survey immediately afterwards (see Appendix D). Three separate online links were used in order to direct participants to the video pertaining to their assigned condition. They were also informed that this part of the study was worth two research credits. They were informed that by clicking yes to the question "Do you consent to participating in this study?" they were indicating their consent to participation. After watching the video, participants were directed back to the online survey website and asked to complete the items.



Three hundred and ninety one individuals participated in Part 2. Due to online study restrictions, only 50 participants were allowed to participate each week. The study was open for 10 weeks, thus, resulting in the potential to have 500 participants complete the study. Of the 500 who could have participated in Time 2, 391 completed, resulting in a retention rate of 78.20%. Of the 391 participants who completed Time 2, 316 completed Time 3, resulting in a completion rate of 80.82%.

The video clips used in the two treatment conditions (“personal stories” and “stories from others”) were taken from the documentary *Shadow Voices: Finding Hope in Mental Illness, an inside look at the experience of living with mental illness*. The documentary was sponsored by Mennonite Media Production and permission was obtained before using these videos. The complete documentary has aired on ABC TV stations, the Hallmark Channel, and other cable stations. The DVD with the documentary also included brief monologues of people talking about their experience with mental illness or with having a family member with mental illness. The video clips used in this study were taken from individual interviews with several of the documentary participants. Since the documentary was sponsored by the Mennonite Media Production, a religious organization, all references to religion were removed from the video clips in order to avoid biased impact on participants. The video clips were then posted online for the participants to see. The clips were each around 15 minutes in length.

The “personal stories” featured a video of people talking about their personal experiences with mental illness. The “stories from others” video involved people talking about the experience of supporting family members or significant others in recovery from mental illness as well as the impact of this support individuals with mental illness. The

control condition watched a 15-minute video about a woman's experience battling cancer.

This video chronicled the prolonged and difficult fight of a woman with cancer who, with the help of her husband, friends, and various medical treatments, was able to overcome the illness.

Quotations from the "personal stories" video include:

"It's interesting, [if] you call 911 for a person who's in psychiatric distress of any kind you don't have an ambulance show up, you have the police show up. So I was brought to the hospital, in the back of a police car ... Bipolar disorder, quite literally, you've got two different poles that you're operating between. In the simplest sense, that means ups and downs. People normally say, "Well, everyone has their own ups and downs." But for someone who has the illness, it's not just severe, it is life threatening."

"My mental illness really started showing up when I was eight."

"Families will say this, 'Only illness in the world where you never get a covered dish.' There is something about having a mental illness where everything falls away, and what you experience is fear and isolation rather than a sense of people coming toward you."

Quotations from the "stories from others" video include:

"Supporting someone with depression is really a journey of patience and perseverance in terms of continually asking, what is urgently needed now? What is most needful now? How can I help my spouse obtain what is most needful? What is most important for me to do at this point?"

Quotations from the control video:

"It was shocking to realize that I had cancer. I mean you know no matter how much you think you know it's the case, when someone tells you, yes, it's cancer, it is shocking. The shock was not finding out that I had cancer but that it was so advanced."

*Part 3: Follow-up.* After watching one of the three videos and taking the online survey, all participants were contacted one week later via email for the chance to earn another research credit for taking a follow-up survey online (see Appendix D). After taking

the survey, they were provided with the debriefing document (see Appendix E) informing them of the purpose of the study. Three hundred and sixteen of the 391 participants (80.80 %) in Part 2 (post-test) participated in Part 3 (follow-up) and thus completed all three parts of the study.

#### *Power Analysis and Sample Size Calculation*

The power analysis software, G\*Power 3, was used to calculate the targeted sample size (Faul, Erdfelder, Lang, & Buchner, 2007). For the main effect, results indicated that for  $\alpha = .05$  and power = .95, a total of 42 participants would be required to detect a "medium" sized effect (Cohen's  $f = .25$ ) and a total of 234 participants would be required to detect a "small" effect size (Cohen's  $f = .10$ ). For the interaction effect, results indicated that for  $\alpha = .05$  and power = .95, a total of 54 participants would be required to detect a "medium" sized effect (Cohen's  $f = .25$ ) and a total of 312 participants would be required to detect a "small" effect size (Cohen's  $f = .10$ ).

## CHAPTER FOUR: RESULTS

## Preliminary Analyses

Table 2 lists the means and standard deviations for the observed variables at Time 1 (pre-test), Time 2 (post-test), and Time 3 (follow-up), respectively. Table 3 reports the zero-order correlations among the four stigma variables (DD, SDS, PSOSH, SSOSH) and Level of Contact at Time 1 (pre-test). As expected, the four stigma measures were correlated with each other (see Table 3). Interestingly, despite prior research showing a relationship between prior contact with mental illness and stigma (Corrigan et al., 2002; Schulze et al., 2003; Thornicroft et al., 2008), the amount of personal contact correlated significantly with only one of the stigma variables in the current study however it was not a strong correlation (SDS;  $r = .12, p < .05$ ; see Table 3).

To examine potential biological sex differences at pre-test among the stigma variables, an independent samples *t*-test was conducted. Table 4 lists the biological sex differences among the observed variables at Time 1. Significant biological sex differences were found for SSOSH,  $t(308) = 2.59, p = .01$ ; 95% CI = (.46, 3.35), and for PSOSH,  $t(310) = 2.18, p = .03$ ; 95% CI = (.06, 1.27). The analyses indicated that men had more negative views of persons with mental illness at Time 1 than females.

To examine potential differences among the stigma variables based on whether or not participants endorsed having had a mental illness, an independent samples *t*-test was conducted. Table 5 demonstrates that participants who said they had ever had a mental disorder reported significantly less stigma on all four stigma measures (DD,  $t(266) = 4.04, p < .001$ ; 95% CI of the difference= (2.80, 8.12); SDS,  $t(267) = 4.19, p < .001$ ; 95% CI of the

difference = (1.52, 4.24), PSOSH,  $t(270) = -2.05, p = .04$ ; 95% CI of the difference = (-1.80, -.04), and SSOSH,  $t(268) = -3.4, p < .001$ ; 95% CI of the difference = (-5.56, -1.50).

*Differential Attrition.* To test for differences due to attrition, chi-square analyses were conducted on the demographic variables biological sex, ethnicity, education level on those who participated at Time 1 (mass testing,  $n = 725$ ) and those who opted to participate in the study at Time 2 (intervention,  $n = 391$ ). In addition, univariate Analysis of Variance (ANOVA) tests were also conducted to examine attrition differences on participants' scores on the stigma measures (i.e., devaluation and discrimination, social distance, cognitive responses to people for seeking help, and perceptions of others' character for seeking help). Specifically, the percentage of participants who participated in mass testing and those who signed-up for the study did not differ by biological sex,  $\chi^2(1, 725) = 0.19, p = .66$ , ethnicity,  $\chi^2(8, 725) = 14.25, p = .08$ , or year in school,  $\chi^2(4, 725) = .98, p = .91$ . However, significant effects were found for devaluation and discrimination (DD),  $F(1, 706) = 5.7, p = .02$ , social distance (SDS),  $F(1, 709) = 8.96, p < .001$ , and perceptions of others' character for seeking help (SSOSH),  $F(1, 709) = 6.63, p = .01$ . No effects were found for negative cognitive evaluations of others for seeking help (PSOSH),  $F(1, 716) = 2.01, p = .15$ . In general, participants who continued with the study reported less stigma on DD, SDS, and SSOSH than those who did not. Thus, it seems that participants with less stigma were more likely to sign-up for a study about mental illness (see Table 6).

Chi-square analyses were also conducted to test for differences between those who participated only at Time 2 (intervention,  $n = 391$ ) and those who completed the follow-up at Time 3 (follow-up,  $n = 316$ ). Similarly, univariate Analysis of Variance (ANOVA) tests were conducted to examine attrition differences on participants' scores on the stigma measures

(i.e., devaluation and discrimination, social distance, cognitive responses to people for seeking help, and perceptions of others' character for seeking help). Specifically, the percentage of participants that finished and dropped out of the study did not differ by biological sex,  $\chi^2(1, 391) = 0.28, p = .60$ , ethnicity,  $\chi^2(8, 390) = 5.96, p = .65$ , or year in school,  $\chi^2(4, 390) = 4.24, p = .38$ . Similarly, no effects were found for devaluation and discrimination (DD),  $F(1, 380) = .17, p = .68$ , social distance (SDS),  $F(1, 381) = .60, p = .44$ , cognitive responses to others for seeking help (PSOSH),  $F(1, 385) = .03, p = .87$ , or perceptions of others' character for seeking help (SSOSH),  $F(1, 385) = .05, p = .82$ . Thus, once participants were in the study, there were no detectable differences between those who dropped out and those who completed the follow-up procedures.

*Pretreatment Differences.* To test for pretreatment differences across the three conditions, chi-square analyses were conducted on the demographic variables biological sex, ethnicity, and education level. Analysis of Variance (ANOVA) was also conducted to examine pretreatment differences on participants' mean scores on the stigma measures (i.e., social distance and devaluation and discrimination scales). Results indicated no pretreatment differences based on biological sex,  $\chi^2(2, 391) = .55, p = .76$ , ethnicity,  $\chi^2(16, 390) = 16.23, p = .44$ , or year in school,  $\chi^2(8, 390) = 12.92, p = .12$ . Similarly, results indicated no main effect for devaluation-discrimination (DD),  $F(2, 380) = 1.16, p = .32$ , social distance (SDS),  $F(2, 381) = .41, p = .67$ , cognitive responses to others for seeking help (PSOSH),  $F(2, 385) = .01, p = .99$ , or perceptions of others' character for seeking help (SSOSH),  $F(2, 385) = .58, p = .56$ . These results suggest that random assignment worked and no differences on the outcome variables were present at Time 1 (pre-test).

### Changes in Mean Scores Over Time

Mixed model Analyses of Variance (ANOVAs) were used to test whether there were differential changes in each of the outcomes across the three conditions (personal stories, other stories, cancer control) over the three time points (pre-test, post-test, and follow-up). Time was entered as the within factor and condition was entered as the between subjects factor in each analysis. Each of the stigma measures (DD, SDS, PSOSH, & SSOSH) was used as a separate dependent variable. Because level of contact was related to SDS in preliminary analyses, it was included as a covariate in the analyses for SDS. Biological sex was also added to the ANOVA as a between subjects factor for PSOSH and SSOSH since the independent samples *t*-test detected significant differences between mean scores by sex at Time 1 (see Table 4). Interactions between time and condition were the primary focus. The effect size utilized is partial eta squared (indexed by  $\eta_p^2$ ). According to the literature, the corresponding qualitative judgments for  $\eta_p^2$  are: 0.01 (small), 0.06 (medium), and 0.14 (large; Cohen, 1988). The alpha level for these twelve tests was Bonferroni corrected ( $.05/12 = .004$ ).

*Devaluation-discrimination.* It was hypothesized that participants who watched one of the treatment videos (personal stories or other stories) would experience a greater decrease in devaluating and discriminatory statements (i.e., the DD scale) toward people with mental illness as compared to subjects assigned to the control group. An interaction between time and group (“personal stories”, “stories from others”, or control) was expected. For devaluation-discrimination, the main effects for Time,  $F(2, 261) = 28.79, p < .001, \eta_p^2 = .18$  was significant. DD stigma scores increased significantly from Time 1 (pre-test) to Time 2 (post-test) and from Time 1 to 3 (follow-up), but not from Time 2 (post-test) to 3 (follow-up);

see Table 8). Thus, all participants reported increase in DD scores, suggesting they reported less devaluation-discrimination over the course of the study, regardless of condition. A decrease in devaluation-discrimination scores indicates participants were reporting more positive views of people with mental illness. The main effect for Condition,  $F(2, 262) = .29$ ,  $p = .75$ ,  $\eta_p^2 = .00$ , was not significant. In addition, the hypothesized interaction between Time X Condition,  $F(4, 524) = .43$ ,  $p = .79$ ,  $\eta_p^2 = .00$ , was not significant (see Figure 1). Therefore, the hypothesis that watching one of the treatment videos would lead to greater decrease in devaluation-discrimination than the control video was not supported.

*Social Distance.* It was hypothesized that participants who watched one of the treatment videos (personal stories or other stories) would experience a greater decrease in desired social distance (i.e., the SDS measure) from those with mental illness as compared to people in the control group. For SDS, Level of Contact was included in the analyses as a covariate, since they were significantly correlated at Time 1 (pre-test;  $r = .12$ ,  $p < .05$ ). Again, an interaction between time and group (“personal stories”, “stories from others”, or control) was expected. The main effect for Time,  $F(2, 288) = 3.09$ ,  $p = .05$ ,  $\eta_p^2 = .02$  was not significant. However, the main effect for Condition,  $F(2, 289) = .26$ ,  $p = .77$ ,  $\eta_p^2 = .00$ , as well as the hypothesized interaction between Time X Condition,  $F(4, 578) = .26$ ,  $p = .91$ ,  $\eta_p^2 = .00$ , were not significant (see Figure 2). As such, the hypothesis for SDS was not supported. There was a significant improvement in SDS scores from Time 1 to Time 2 and Time 1 to Time 3 but this difference was not due to a specific condition.

*Cognitive responses to people for seeking help.* It was hypothesized that participants who watched one of the treatment videos (personal stories or other stories) would experience a greater decrease in negative cognitive perceptions of others for seeking mental health



services (i.e., the PSOSH scale) as compared to participants in the control group. An interaction between time and group (“personal stories”, “stories from others”, or control) was expected. Due to a significant difference between males and females detected at Time 1 on the PSOSH (see Table 5), Biological Sex was added as a between subjects factor to the ANOVA to check for a Time X Condition X Biological Sex interaction. The main effects for Time,  $F(2, 301) = 1.35, p = .26, \eta_p^2 = .01$  (see Table 8), Condition,  $F(2, 302) = .63, p = .54, \eta_p^2 = .00$ , and the interactions between Time X Condition,  $F(4, 604) = .32, p = .87, \eta_p^2 = .00$ , were non-significant. Furthermore, no interaction with Time X Condition X Biological Sex was detected,  $F(4, 598) = 1.20, p = .31, \eta_p^2 = .01$  (see Figure 3). Therefore, this hypothesis was not supported. There was no significant difference across time or between conditions.

*Perceptions of others' character.* It was hypothesized that participants who watched one of the treatment videos (personal stories or other stories) would experience a greater improvement in personal views of the strength of the character (i.e., decrease in scores on the the SSOSH scale) of someone who sought psychological help for a mental health issue than participants in the control group. An interaction between Time X Group was expected. Due to a significant difference between males and females detected at Time 1 on the SSOSH (see Table 5), Biological Sex was added as a between subjects factor to the ANOVA to check for a Time X Condition X Biological Sex interaction. For SSOSH, the main effect for Time was significant such that SSOSH scores decreased significantly from Time 1 (pre-test) to Time 2 (post-test) and from Time 1 to 3 (follow-up), but not from Time 2 (post-test) to 3 (follow-up),  $F(2, 278) = 7.86, p < .001, \eta_p^2 = .05$  (see Table 8). The main effect for Condition,  $F(2, 279) = .01, p = .99, \eta_p^2 = .00$ , as well as the interaction between Time X Condition,  $F(4, 558) =$

1.63,  $p = .17$ ,  $\eta_p^2 = .01$  were not significant. Furthermore, no Time X Condition X Biological Sex interaction was detected,  $F(4, 552) = 2.17$ ,  $p = .07$ ,  $\eta_p^2 = .02$  (see Figure 4). As such, the hypothesis for SSOSH was not supported. There was a significant improvement in SSOSH scores from Time 1 to Time 2, and from Time 1 to Time 3, but this difference was not due to a specific condition.

*Behavior.* It was hypothesized that participants who watched one of the treatment videos (personal stories or other stories) would be more likely to agree to talk to someone with mental illness than participants in the control group. A chi-square analysis was conducted on the behavioral item (Yes/No), “Would you be willing to come in and meet with a group of mentally ill individuals for a discussion about the experience of being mentally ill?” No significant differences were found between the percentage of participants who said they were willing to come in and those who did not across condition,  $\chi^2(2, 313) = 1.89$ ,  $p = .39$  (see Figure 5). For the “personal stories” condition, 26.42% said ‘yes’ while 73.58% said ‘no.’ For the “stories from others” condition, 34.78% said ‘yes’ and 65.22% said ‘no.’ For the control condition, 29.35% said ‘yes’ and 70.65% said ‘no.’ Due to significant biological sex differences detected for PSOSH and SSOSH scores, I also ran this chi-square analysis on men and women, separately, but found similar non-significant results for both men,  $\chi^2(2, 115) = 1.28$ ,  $p = .53$ , and women,  $\chi^2(2, 198) = 1.13$ ,  $p = .57$ .

## CHAPTER FIVE: DISCUSSION

The current study examined the effectiveness of indirect contact (via video) with people with mental illness and with friends and family members of people with a mental illness on reducing mental health stigma. Four types of stigma were measured in the current study: devaluation and discrimination, social distance, cognitive responses to people for seeking help, and perceptions of others' character for seeking help. It was hypothesized that watching one of the intervention videos would decrease the four types of stigma as compared to a control video in which participants watched a woman talking about her experience with a physical illness (i.e., cancer). However, the results did not support the hypotheses. All conditions led to some immediate positive changes in reported stigma yet the conditions did not differ in the amount of change.

It was also expected that people who watched one of the treatment videos would be more likely to agree to come in and talk to someone with mental illness than participants in the control group. This item was included to see if the treatment had an impact on the behavioral intentions of the participants. However, results indicated no significant differences in the frequency of people who said 'yes' and those who said 'no' between the different conditions. No significant results were detected on this item. Similar studies have included such proxy measures of behavior and in fact, Corrigan et al. asked participants if they would like to donate part of their study reimbursement to NAMI-SS and found that interpersonal contact with persons with mental illness significantly impacted participants' willingness to donate money to such persons. It is possible that checking a box to indicate one would like to donate money they just earned through study participation represents less effort on the part of the subject than agreeing to go somewhere and talk to people with mental illness.

While several studies have shown that indirect contact with persons with mental illness through video can be effective at reducing mental health stigma (e.g., Corrigan et al., 2002; Desforges et al., 1991; Schulze et al., 2003), other researchers have found non-significant results similar to those found in this study (e.g., Callahan et al., 1997; Holmes et al., 1999; Shor & Sykes, 2002). In particular, Shor and Sykes (2002) attribute their lack of significant findings to the one-time intervention, suggesting future studies focus on the longer-term impact of interventions on changing attitudes toward mental illness. We chose intervention videos with several different individuals discussing their stories. However, the videos used were still relatively brief and only lasted about 15 minutes. In addition, it is difficult to know if the students actually watched the videos. Although researchers have demonstrated that short interventions can be effective in producing mental health stigma change (Corrigan, River et al., 2001; Corrigan, 2004b; Penn et al., 1994; 1999), it is possible that, similar to Shor and Sykes, the videos in the current study were not long enough to produce significant, lasting results. As such, it may be important to assess the effectiveness of more lengthy interventions on changing mental illness stigma. Future studies could attempt to determine the ideal length of an intervention aimed at changing the stigma toward mental illness. In addition, because participants saw the video only once during the study, it is also possible that repeated exposure to a video or intervention is necessary to detect significant changes in mental illness stigma (Kaplan, Vogel, & Gentile, 2010). Future researchers may want to examine the number of exposures necessary to create significant and lasting changes in mental health stigma (Shor & Sykes).

Callaghan et al. (1997) also suggested that their non-significant findings may be due to surveying a self-selective sample and the potential impact of social desirability. In the

current study, significant differences were found between those who chose to participate in the study and those who did not on three of the stigma measures. People who did not choose to participate in the study reported significantly higher levels of stigma toward persons with mental illness at pre-test. Therefore, participants who watched the video and completed the post-test at Time 2 started out with less stigma than those who did not to participate, and as such my ability to detect differences between the treatment and control conditions may have been diminished. In other words, the treatment may not have been as effective as it would have been on people who started with lower levels of stigma. Future studies may want to better disguise the purpose of the study in order to include people with all levels of stigma.

Related to the above concerns, the results of this study might have been impacted by the obvious nature of the study (i.e., an intervention to reduce perceptions of mental illness). The questions asked were all relatively face valid in terms of their focus on mental illness and participants may have made the connection that the video they watched should produce a positive result in better perceptions of mental illness. Therefore, differences between groups may not have shown up if participants correctly guessed the purpose of the study.

Another reason for the lack of significant findings may have been that the main characters in the two treatment videos were adults with severe mental illness, thus possibly less identifiable to typical age college students. It may have been hard for college students to identify with the people in the videos. Identification may be a key factor in a video's influence on outcome changes (Kaplan et al., 2010). Future researchers may want to examine the impact of the person delivering the message as well as the connection the participant feels to that person on stigma towards mental illness. Since the specification of severe disorders may have decreased this sample's ability to identify with the people in the

videos, it may also be beneficial to develop videos involving mental health problems specifically relevant to college students (e.g., depression, anxiety, problems coping with stress, career indecision).

Despite numerous possible explanations, one of the most likely explanations for the current results may be due to the fact that watching any video focused on personal and emotional disclosure about illness (physical or mental) lessens stigma (i.e., allows the development of greater empathy). In other words, participants who watched the control video may not have made the distinction between dealing with cancer (e.g., seeking help from a medical doctor) and dealing with mental illness (e.g., seeking help from a psychiatrist or psychologist). It could have been that the experience of sympathy or empathy for the individuals in the video mattered more than the characters' particular problems. Consistent with this suggestion, participants' scores for three of the stigma measures (DD, SDS, and the SSOSH) increased the most across conditions right after seeing the video. As such, it seems that watching any of these videos may have produced a positive impact on mental illness stigma.

Some evidence supports the conclusion that the control video may have been equally effective as the other conditions. I asked participants an open-ended question about their reactions to the videos. Comments made by participants in response to the control video included: "don't be ashamed to seek professional psychological services," "I felt sympathetic for the family," "I felt sympathetic toward the patient as she struggled to find out exactly what was wrong with her," "I was very moved by how strong Bonnie Bell was in the face of possibly terminal cancer. It is amazing how resilient people can be," "It definitely made me emotional because I always feel sad for people who go through this but I was glad it ended

well,” and “It had a kind of big impact. It made me think of my friend who died of breast cancer and made me very sad. It was hard since she was only 28 so it made me think of her a lot.” Thus, feeling an emotional connection to the person in the video may have had an impact on participants’ stigma toward persons with any kind of illness (physical or psychological). Future researchers may want to examine the impact of experiencing an emotional connection to a struggling individual on stigma towards mental illness. In addition, film ratings may have influenced participant responses to other survey variables, especially those related to stigma towards mental illness. More research in this area might help determine the exact ingredients in a mental health stigma reduction program involving contact with mental illness.

Although the findings of this study did not support the hypotheses, deeper exploration revealed important findings elsewhere. First, consistent with previous research (Farina, 1981; Judd et al., 2006; Penn & Link, 2002; Shechtman, Vogel, & Mamen, 2010; Vogel et al., 2007; Vogel et al., 2009), significant main effects for biological sex were detected for SSOSH and PSOSH, indicating that women tend to report less stigma toward people with mental illness than men. These findings confirm previous research on the differences between men and women concerning the way they view mental health services. Researchers have examined the ways in which mental health stigma may differ for men and women. Farina, in a review of the literature in this area, reported that men and women behave differently toward people with mental illness. Specifically, women behave in a more benign and favorable manner toward persons with mental illness. More recently, Penn and Link found that male participants tend to be more negatively stigmatizing toward persons described as having schizophrenia than female participants. Consistent with this, men have

been found to stigmatize those who seek mental health services to a greater degree than women (Judd et al.; Shechtman et al., 2010; Vogel et al., 2007; Vogel et al., 2009). As such, men and women may perceive the stigma of seeking help differently. It also suggests that investigators may want to look at targeted interventions for women and men. While significant differences in the intervention across groups were not detected in the current study, interventions specifically targeted to either women or men may provide stronger effects. For example, Hammer and Vogel (2010) used a male-sensitive brochure including information about counseling and informed by research on men and masculinity to reduce the self-stigma and attitudes towards seeking help. They found that the brochure improved the male participants' attitudes and decreased their self-stigma toward counseling. While the study by Hammer and Vogel focused exclusively on men, it is a significant contribution to the literature. Future research may contribute to the field by continuing to investigate how men and women differ in their experience of stigma toward mental illness and in developing interventions tailored to each sex. Having a better understanding of these differences would help inform the development of stigma changing interventions such as the one used in the current study.

Second, similar to findings by earlier researchers (e.g., Corrigan et al., 2002; Link & Cullen, 1986), previous level of contact with mental illness was found to correlate significantly with the social distance stigma measure (SDS). In addition, participant scores on the single-item measure asking participants if they have ever had a mental illness did differ significantly on the four stigma measures in that people who reported having had a mental illness indicated significantly less stigma than those who did not endorse this item. This finding is consistent with previous research that people with more contact with mental illness



have better attitudes toward such persons and less stigma (e.g., Link & Cullen). Future studies might want to investigate the stigma change process and how it differs for those who have experienced a mental disorder from those who have not.

It is worth noting, however, that previous contact with mental illness did not correlate significantly with the other three stigma measures used in this study (DD, PSOSH, and SSOSH). This may be due to the fact that the questions in the Level-of-Contact Report (LCR) match up to the questions in the SDS better than they do to the other measures. For example, one item on the SDS asks “How would you feel about working with someone with a mental illness?” and one of the items on the LCR asks participants to respond (yes/no) to the following statement: “I have worked with a person who had a mental illness at my place of employment.” Thus, both measures refer to some sort of interaction with persons with mental illness and one might expect that if someone says they have past contact with a person with mental illness at their job, they would be more likely to say they would feel ok about working with someone with mental illness. In contrast, one of the items on the DD asks participants to respond to the following statement: “I would believe that a person who has been in a mental hospital is just as intelligent as the average person.” Thus, it is possible that the SDS items match more closely to the items on the LCR in terms of either past contact or hypothetical future contact, while the other three stigma items are more a measure of beliefs, thoughts, and affective reactions towards people with mental illness. Future research may want to specifically investigate the item overlap of the different scales and confirm the current finding regarding the connections between level of contact and the DD, PSOSH, and SSOSH scores.

Another reason the Level-of-Contact Report may not have correlated significantly with the DD, PSOSH, or SSOSH might be the manner in which it is scored. As discussed previously, it is scored using a rank order system such that the score the participant gets on the scale signifies the most intimate type of contact with mental illness a participant endorses. For example, if a participant checked “I have a mental illness,” he or she would get a score of 11, regardless of any other interactions the person may endorse (e.g., watched a movie with mentally ill character; working with a person with mental illness; having a friend with mental illness). The current scoring system does not take into account all the ways someone may have interacted with people with mental illness. Perhaps if all types of contact endorsed by the participant were included in the score, it would be a more accurate representation of their familiarity with mental illness. Future researchers may wish to investigate and validate alternative ways of scoring this measure in order to make the score more reflective of people’s actual (and cumulative) experiences with mental illness.

### Implications

The current study’s findings suggest several areas for future researchers to explore. In general, it is important to continue to examine the ingredients necessary for successful stigma-change reduction programs involving contact with people with mental illness. First, an area worthy of more exploration is the intensity of the emotional reaction participants experience when watching the video and how such reactions may impact stigma towards mental illness. If the emotional reaction is influential then researchers need to measure these responses to future videos as well as further examine the impact on stigma. Second, it might be worth examining in more detail how men and women are impacted differently by stigma reduction programs. Third, future researchers may wish to focus on how stigma differs by

level of previous contact with mental illness and how this may impact the effectiveness of a program aimed at reducing negative views towards persons with mental illness. Finally, investigators should also consider that participants in college may be more likely to relate to other college students rather than middle-aged or older adults. They may also be better able to relate to less severe psychological concerns and concerns pertaining more to the college student population.

Thus, individuals with differences such as biological sex, age, level of education, and previous contact may require the use of different videos in order to be most effective in reducing the stigma towards mental illness. Future studies involving the use of indirect contact through videos may need to examine more closely both the content included in the videos (e.g., types of psychological problems discussed) and the demographics of the individuals in the video (e.g., age, education, biological sex) in an attempt to match them to the viewing audience.

When working with clients with mental illness, clinicians should remember that men and women experience stigma differently and thus may have contrasting experiences with having a mental illness and with seeking professional help for their problems. Clinicians can be cognizant of this difference and seek to understand their clients' feelings about having a mental illness and the associated stigma. In addition, it is also important to remember that stigma is not only detrimental to the lives of people with mental illness but it is also pervasive and often interferes with the willingness to seek professional help. Thus, clients who do make it into the therapy office have most likely experienced some of the negative consequences of mental illness stigma which may be an integral part of the counseling experience.

### Strengths, Limitations, and Future Directions

A strength of this study is that it employs an experimental pre-test post-test control group design in order to randomly assign participants to either the treatment or control group, thus enabling us to draw more causal inferences from the results than if participants were able to self-select. Second, I extended previous research findings by using two measures of mental health stigma and two measures of stigma associated with seeking help. I also included a behavioral intentions question. Many past studies have relied solely on a single measure such as the SDS and other proxy behavioral measures of stigma. The current study added additional stigma measures not typically used in this area of research in order to broaden and extend our understanding of mental illness stigma and the effects of an intervention aimed at changing it. Third, the current study used videos of real people talking about their experiences with mental illness rather than a documentary or educational presentation. Thus, it attempts to build on previous research findings that contact with people with mental illness will help improve the stigma toward such persons (e.g., Corrigan et al., 2002; Link & Cullen, 1986). Finally, the current investigation examined the effect of two different types of video interventions involving listening to personal stories from people with mental illness as well as from people talking about the experience and importance of being a family member or significant other to someone with a mental illness. Both seemed to be equally effective.

Despite the various strengths of the current study, there are a few important limitations worth discussing. First, due to the percentage of European-Americans (90.9%) in the sample, it is difficult to generalize these findings to other regions in the US or to other cultures. In addition, the majority of the sample consisted of freshman or sophomores (80%),

thus making it difficult to generalize to other age groups. Results may not be accurately representative of the actual US population due to the large percentage of European-American undergraduate psychology students. In addition, since the sample was not very diverse, the results may reflect mental health stigma of this specific group of people rather than the general population. Researchers should attempt to incorporate participants from more varied ethnic backgrounds as well as from a broader age range in order to improve generalizability of the findings.

Second, in order to tailor the study to focus on participants' views of other people with mental illness, the wording in three of the four stigma measures was altered (DD, SSOSH, PSOSH). While the reliability and validity data from the current study suggest the altered scales are similar psychometrically to the original scales, it is possible that the altered wording contributed to the lack of significant differences. Future studies may want to administer these altered scales to a larger sample in order to generate more reliability and validity data before continuing to use them to assess interventions aimed at changing stigma toward mental illness.

Third, asking participants about their *willingness* to meet with a person with mental illness measures behavioral intentions but not actual behavior. Thus, another limitation to this study is that it did not test the effects of the intervention video on actual behavior change. For a long time it has been recognized that a connection between attitudes and behavior exist (Ajzen & Fishbien, 1977), but attitudes are not the same as behavior. To the degree that the ultimate goal of interventions like the one tested in this study is to improve utilization of services, longer-term studies of actual behavior change are needed with larger samples. In addition, a limitation to this behavioral measure is that it asked participants if they would be

willing to go somewhere and talk to people with mental illness. Since the study was conducted online yet this behavioral measure would require participants actually going to a location, it may be difficult to measure actual behavioral intentions. An alternative might be to set up an online chat room and ask participants if they would like to chat online with persons with mental illness. This type of behavioral measure would not only match the method (online as opposed to in-person), and would allow researchers to capture actual behavior.

Fourth, the current study did not include a no-treatment condition to use as a comparison to the video conditions. Thus, it is possible that taking the surveys three times, regardless of video condition, may have resulted in changes in scores on DD, SDS, and SSOSH, and not the treatment. Future researchers may want to include both an unrelated video control condition as well as a no-treatment condition to examine the effects of repeated testing as well as whether or not watching a video of a woman with cancer has similar effects to watching a video of people talking about their experiences with mental illness.

### Conclusion

This study assesses the effectiveness of two video interventions on reducing four types of stigma (i.e., devaluation and discrimination, social distance, cognitive responses to people for seeking help, and perceptions of others' character for seeking help). While the hypotheses were not fully supported, the results contribute to an empirical assessment of a video intervention using contact in order to reduce the stigma of mental illness. It is important to identify ingredients and elements necessary to video interventions because they can reach a wider audience and are more standardized than in-person presentations by people with mental illness. Several important implications come out of the findings from this study.

First, it is possible that experiencing an emotional connection to the characters in the video may have a significant impact on stigma. Future studies should look more closely at the role of emotions felt in reaction to the intervention on reported stigma change. Second, the videos may have impacted men and women differently as they reported significantly different levels of stigma at the beginning of the study. Thus, it is important to further explore how the experience of mental health stigma differs for men and women. Future interventions should accommodate these differences and either design separate interventions for males and females or ensure that elements that correlate with change for both males and females are included in the treatment. In general, future research should incorporate some of the limitations from this study in hopes of coming closer to identifying the best way to change stigma towards mental illness through indirect means such as a video.

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## Tables

Table 1

*Reliability Alpha Coefficients for the Four Stigma Variables*

Measure	Time 1 (pre-test)		Time 2 (post-test)		Time 3 (follow-up)		<i>M</i>
	$\alpha$	<i>N</i>	$\alpha$	<i>N</i>	$\alpha$	<i>N</i>	$\alpha$
DD	.87	307	.88	282	.90	307	.88
SDS	.90	309	.90	306	.91	310	.90
PSOSH	.86	312	.80	312	.84	311	.84
SSOSH	.87	310	.86	297	.87	304	.87

*Note.* *N* = 725 at Time 1; 391 at Time 2; 316 at Time 3. DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.

Table 2

*Mean, Standard Deviation, Sample Size Among the Four Stigma Variables*

Measure	Time 1			Time 2			Time 3			Possible Range
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	
DD	43.71	8.18	307	46.12	8.08	282	45.74	8.53	307	12-60
SDS	18.49	4.13	309	19.68	4.20	306	19.63	4.34	310	7-28
PSOSH	6.75	2.61	312	6.51	2.15	312	6.54	2.31	311	5-25
SSOSH	19.06	6.29	310	17.80	5.76	297	18.19	5.72	304	10-50

*Note.* *N* = 725 at Time 1; 391 at Time 2; 316 at Time 3. DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.

Table 3

*Zero-order Correlations Among the Four Stigma Variables and Level of Contact*

Measure	2 (n)	3 (n)	4 (n)	5 (n)
1. DD	.73** (301)	-.47** (304)	-.62** (302)	.10 (307)
2. SDS	-	-.30** (306)	-.49** (303)	.12* (309)
3. PSOSH		-	.56** (306)	-.09 (312)
4. SSOSH			-	-.09 (310)
5. Level of Contact				-

*Note.*  $N = 316$  at Time 2. DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.  
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 4

*Biological Sex Differences on the Four Stigma Variables at Time 1 (pre-test)*

Measure	Biological Sex	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i> -test	95% CI
DD	Male	111	43.51	8.26	$t(305) = -.32, p = .75$	[-2.22, 1.61]
	Female	196	43.82	8.15		
SDS	Male	113	18.71	4.51	$t(307) = .72, p = .47$	[-.61, 1.31]
	Female	196	18.36	3.90		
PSOSH	Male	114	7.18	2.97	$t(310) = 2.18, p = .03^*$	[.06, 1.27]
	Female	198	6.51	2.35		
SSOSH	Male	113	20.27	6.29	$t(308) = 2.59, p < .01^*$	[.46, 3.35]
	Female	197	18.37	6.20		

*Note.* CI = confidence interval; (lower limit, upper limit). DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.

\* $p < .05$



Table 5

*History of Mental Illness Differences on the Four Stigma Variables at Time 1 (pre-test)*

Measure	Yes		No		<i>t</i> -test for Equality of Means	95% CI of the difference
	<i>M</i>	<i>n</i>	<i>M</i>	<i>n</i>		
DD	48.24	41	42.78	227	$t(53.47) = 3.86, p < .001^{***}$	[2.63, 8.29]
SDS	20.88	40	18.00	229	$t(55.88) = 4.40, p < .001^{***}$	[1.57, 4.20]
PSOSH	6.02	42	6.94	230	$t(84.78) = -2.80, p < .01^{**}$	[-1.57, -.27]
SSOSH	16.02	41	19.55	229	$t(53.73) = -3.31, p < .01^{**}$	[-5.67, -1.39]

*Note.* CI = confidence interval (lower limit, upper limit). DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*. Equal variances not assumed.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 6

*Mean Differences Between Participants Who Chose to Participate in the Intervention and Those Who Did Not (pre-test only)*

Measure	Time 1 (Pre-test)			Time 2 (Intervention)			<i>F</i>	Sig.
	<i>M</i>	<i>SD</i>	95 % CI	<i>M</i>	<i>SD</i>	95% CI		
DD	42.36	7.78	[41.50, 43.23]	43.80	8.10	[43.00, 44.60]	5.70	.02*
SDS	17.62	4.30	[17.16, 18.07]	18.56	4.12	[18.14, 18.99]	8.96	.00**
PSOSH	7.04	2.84	[6.74, 7.33]	6.74	2.61	[6.47, 7.02]	2.07	.15
SSOSH	20.37	6.73	[19.66, 21.08]	19.10	6.34	[18.45, 19.75]	6.63	.01**

*Note.* *N* = 725 at Time 1; 391 at Time 2. CI = confidence interval; (lower limit, upper limit). DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.

\**p* < .05; \*\**p* < .01; \*\*\**p* < .001

Table 7

*Main Effects for Time for the 4 Stigma Variables*

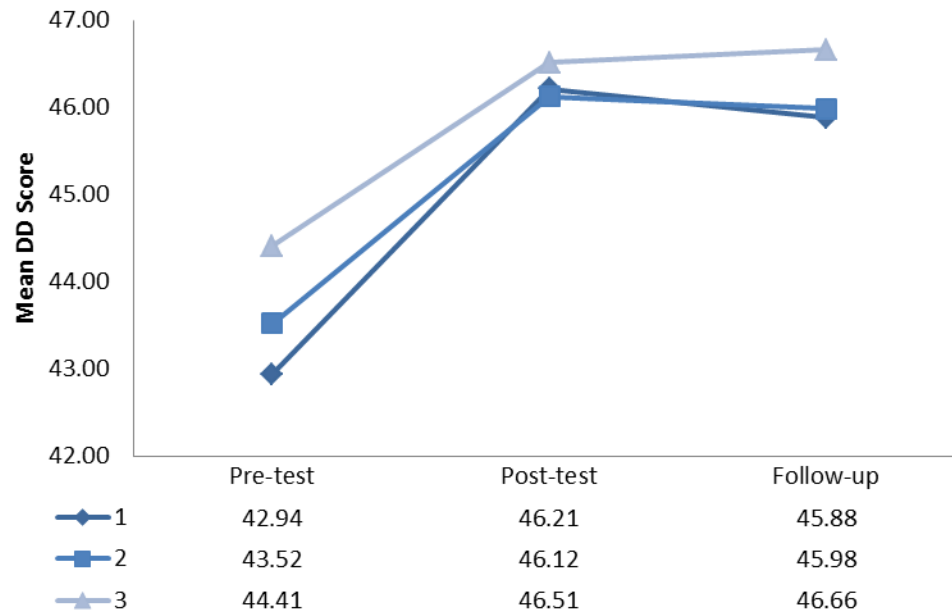
<b>Pre-test to Post-test (Time 1 to Time 2)</b>			
Measure	<i>M &amp; 95% CI</i>		
	Time 1	Time 2	
DD	43.63 (42.65, 44.61)	46.34 (45.39, 47.29)	$F(1, 272) = 57.89, p < .001^{***}, \eta_p^2 = .18$
SDS	18.44 (17.96, 18.91)	19.73 (19.26, 20.21)	$F(1, 298) = 57.52, p < .001^{***}, \eta_p^2 = .16$
PSOSH	6.72 (6.43, 7.01)	6.49 (6.25, 6.73)	$F(1, 307) = 3.24, p = .07, \eta_p^2 = .01$
SSOSH	19.02 (18.31, 19.74)	17.77 (17.10, 18.44)	$F(1, 290) = 18.03, p < .001^{***}, \eta_p^2 = .06$
<b>Post-test to Follow-up (Time 2 to Time 3)</b>			
Measure	<i>M &amp; 95% CI</i>		
	Time 2	Time 3	
DD	46.04 (45.31, 47.25)	45.94 (45.13, 47.21)	$F(1, 273) = .14, p = .71, \eta_p^2 = .00$
SDS	19.67 (19.20, 20.15)	19.60 (19.10, 20.10)	$F(1, 299) = .21, p = .65, \eta_p^2 = .00$
PSOSH	6.50 (6.25, 6.73)	6.49 (6.23, 6.74)	$F(1, 306) < .001, p = .97, \eta_p^2 = .00$
SSOSH	17.86 (17.19, 18.53)	18.19 (17.53, 18.85)	$F(1, 287) = 2.10, p = .15, \eta_p^2 = .01$
<b>Pre-test to Follow-up (Time 1 to Time 3)</b>			
Measure	<i>M &amp; 95% CI</i>		
	Time 1	Time 3	
DD	43.64 (42.70, 44.57)	45.93 (44.96, 46.90)	$F(1, 297) = 40.76, p < .001^*, \eta_p^2 = .12$
SDS	18.48 (18.01, 18.94)	19.68 (19.19, 20.16)	$F(1, 302) = 42.21, p < .001^*, \eta_p^2 = .12$
PSOSH	6.44 (6.41, 7.0)	6.54 (6.28, 6.80)	$F(1, 308) = 2.03, p = .16, \eta_p^2 = .01$
SSOSH	19.01 (18.36, 19.80)	18.12 (17.47, 18.78)	$F(1, 297) = 11.79, p < .001^{***}, \eta_p^2 = .04$

*Note.* CI = confidence interval; (lower limit, upper limit). DD = *Devaluation-Discrimination*; SDS = *Social Distance Scale*; PSOSH = *Public Stigma of Seeking Help Scale*; SSOSH = *Self-Stigma of Seeking Help*.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## Figures

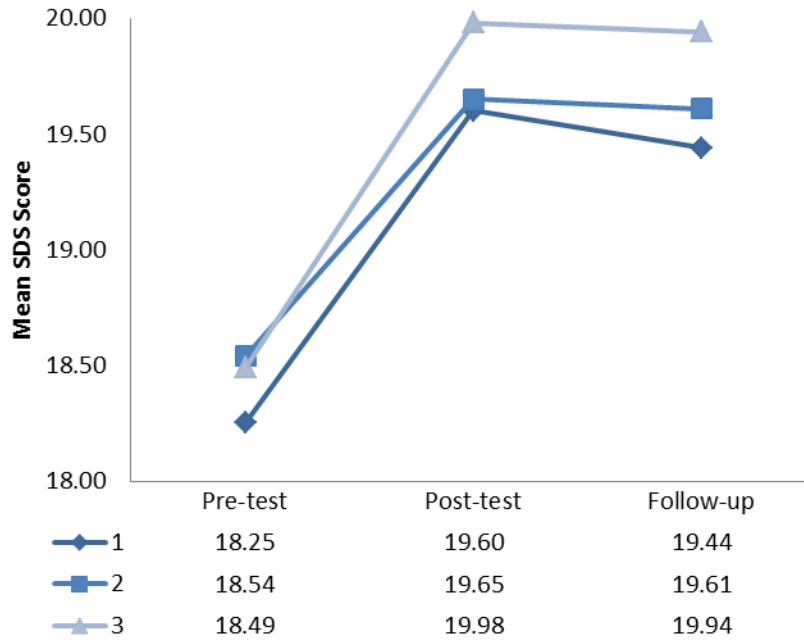
Figure 1. Time by Condition Interaction for DD



		Pre-test	Post-test	Follow-up
1	<i>n</i>	89	89	89
	<i>SD</i>	8.21	7.98	8.60
2	<i>n</i>	93	93	93
	<i>SD</i>	8.52	8.31	9.23
3	<i>n</i>	83	83	83
	<i>SD</i>	8.18	7.75	7.80

Note.  $n = 265$ . DD = Devaluation-Discrimination; 1 = Personal Stories; 2 = Stories From Others; 3 = Control Cancer Condition.  $F(4, 524) = .43, p = .79, \eta_p^2 = .00$ .

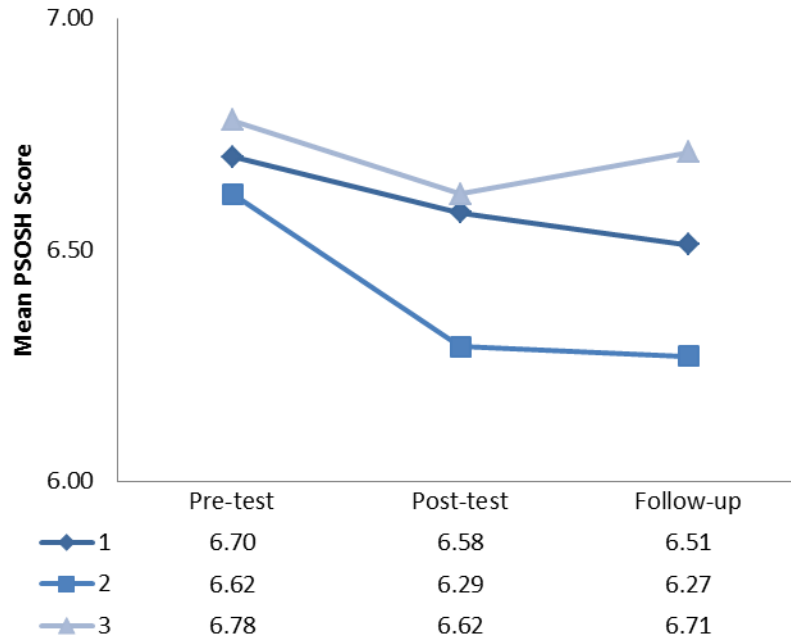
Figure 2. Time by Condition Interaction for SDS



		Pre-test	Post-test	Follow-up
1	<i>n</i>	101	101	101
	<i>SD</i>	4.33	4.33	4.66
2	<i>n</i>	106	106	106
	<i>SD</i>	3.93	3.61	4.20
3	<i>n</i>	86	86	86
	<i>SD</i>	4.20	4.57	4.19

Note.  $n = 293$ . SDS= *Social Distance Scale*; 1 = Personal Stories; 2 = Stories From Others; 3 = Control Cancer Condition.  $F(4, 580) = .26, p = .90, \eta_p^2 = .00$ .

Figure 3. Time by Condition Interaction for PSOSH

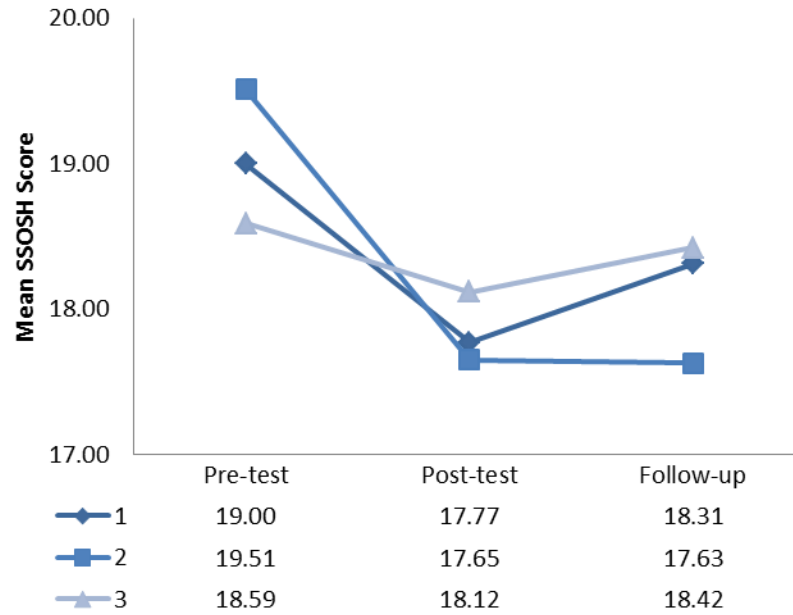


		Pre-test	Post-test	Follow-up
1	<i>n</i>	106	106	106
	<i>SD</i>	2.53	1.99	2.27
2	<i>n</i>	108	108	108
	<i>SD</i>	2.60	1.89	1.93
3	<i>n</i>	91	91	91
	<i>SD</i>	2.52	2.58	2.64

Note.  $n = 305$ . PSOSH = Public Stigma of Seeking Help Scale; 1 = Personal Stories; 2 = Stories From Others; 3 = Control Cancer Condition.

$F(4, 604) = .32, p = .87, \eta_p^2 = .00$ .

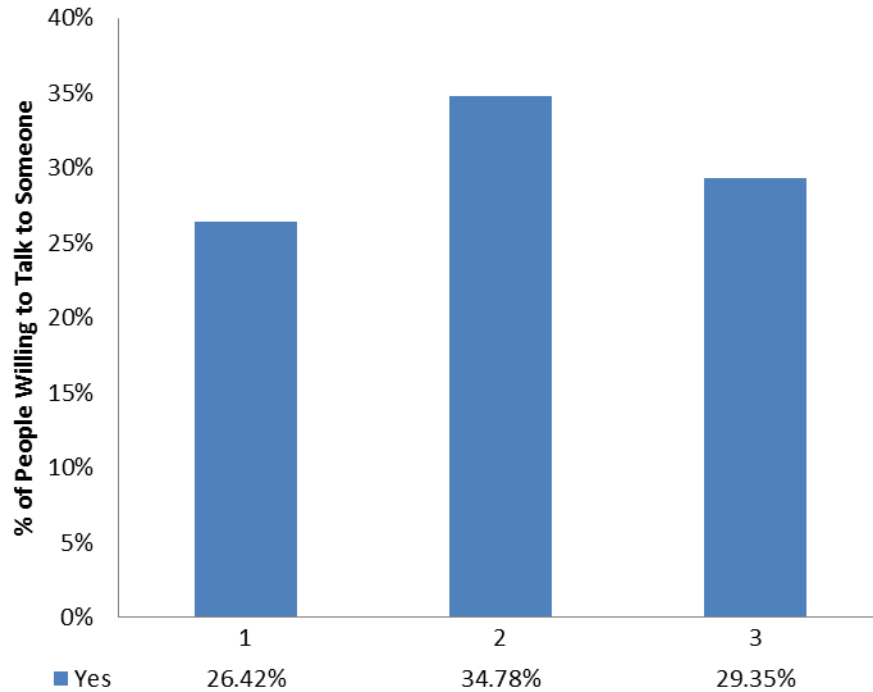
Figure 4. Time by Condition Interaction for SSOSH



		Pre-test	Post-test	Follow-up
1	<i>n</i>	99	99	99
	<i>SD</i>	6.77	6.27	5.90
2	<i>n</i>	97	97	97
	<i>SD</i>	6.14	5.41	5.51
3	<i>n</i>	86	86	86
	<i>SD</i>	5.76	5.80	5.81

Note.  $n = 282$ . SSOSH = *Self-Stigma of Seeking Help*; 1 = Personal Stories; 2 = Stories From Others; 3 = Control Cancer Condition.  $F(4, 558) = 1.63, p = .17, \eta_p^2 = .01$ .

Figure 5. Percentage of People Willing to Talk to Someone with A Mental Illness by Condition



Note.  $n = 106$  for Time 1;  $n = 115$  for Time 2;  $n = 92$  for Time 3. Participants who responded 'yes' to the question: "Would you be willing to come in and meet with a group of mentally ill individuals for a discussion about the experience of being mentally ill?"

1 = Personal Stories; 2 = Stories From Others; 3 = Control Cancer Condition.  
 $F(4, 558) = 1.63, p = .17, \eta_p^2 = .01.$



## APPENDIX A: STUDY PROCEDURES FLOW CHART

Part 1: Psychology undergraduate students participate in the Psychology Department's Fall 2009 Mass Testing  
N = 725

Part 2: Approximately 242 participants were randomly assigned to one of three conditions, contacted via email, and invited to watch a video online and take an online survey immediately afterwards. Participants asked to read and electronically sign the informed consent document first. Participants assigned two research credits for their participation in this part of the study.

↓  
n = 242

Treatment A:  
Watch a video of people with mental illness talking about their personal experiences

↓  
n = 128

↓  
n = 241

Treatment B: Watch a video depicting family members and significant others of people with mental illness talking about their experiences

↓  
n = 132

↓  
n = 242

Control:  
Watch a video of a woman with breast cancer

↓  
n = 121

Part 3: Participants contacted one week after watching the video and asked to take a follow-up online survey to earn one more research credit. After taking the survey, they are provided with the debriefing document.

Treatment A:  
n = 108

Treatment B:  
n = 115

Treatment C:  
n = 93

*Note.* Of the 242 participants assigned to each condition, they did not all have the opportunity to participate due to the 50 person per week limit on online studies. Thus, response rates may be inaccurate.

APPENDIX B: RECRUITMENT EMAILS

First email communication after Mass Testing

Title of Study: Video Study

Subject Line: Psychology Study: Earn research credit!

We are seeking psychology undergraduate students to participate in a completely online study designed to better understand your perceptions of mental illness and therapy. Please note that participation in any part of the study is entirely voluntary and you may stop at any point.

If you agree to participate in this study, you can earn up to 3 research credits. This is a completely online study designed to better understand your perceptions of mental illness. For the first part of the study, you will watch a brief online video about people's experiences with mental illness followed by an online survey about your reactions to the video (2 research credits). One week later, you will be emailed with the opportunity to earn another research credit by taking a follow-up online survey.

In addition, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. You must be 18 years of age to participate in this study.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, Ashley H. Hackler, M.S. at vogelab@iastate.edu. You may also contact the supervising faculty member, Dr. David Vogel, at dvogel@iastate.edu or 294-1582. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

If you would like to participate, please go to the following website and take the survey.

[SURVEY LINK]

Thank you in advance for your time.

Sincerely,

Ashley Hackler, M.S.  
Doctoral Graduate Student

Email communication for follow-up survey

Title of Study: Video Study

Subject Line: Psychology Study: Earn more research credit!

Thank you for participating in Part I of the video intervention study. You have earned two research credits. We are contacting you with the opportunity to earn one more research credit by taking another online survey.

Participation in any part of the study is entirely voluntary and you may stop at any point. In addition, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. You must be 18 years of age to participate in this study.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, Ashley H. Hackler, M.S. at [vogelab@iastate.edu](mailto:vogelab@iastate.edu). You may also contact the supervising faculty member, Dr. David Vogel, at [dvogel@iastate.edu](mailto:dvogel@iastate.edu) or 294-1582. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

If you would like to participate, please go to the following website and take the survey.

[SURVEY LINK]

Thank you in advance for your time.

Sincerely,

Ashley Hackler, M.S.  
Doctoral Graduate Student  
Department of Psychology  
Iowa State University  
[vogelab@iastate.edu](mailto:vogelab@iastate.edu)

## APPENDIX C: INFORMED CONSENT DOCUMENT

Title of Study: Video Study

Investigators:

Ashley H. Hackler, M.S.

David L. Vogel, Ph.D.

Asale Hubbard, B.A.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, Ashley H. Hackler, M.S. at [vogelab@iastate.edu](mailto:vogelab@iastate.edu). You may also contact the supervising faculty member, Dr. David Vogel, at [dvogel@iastate.edu](mailto:dvogel@iastate.edu) or 294-1582.

## INTRODUCTION

The purpose of this study is to examine perceptions of mental illness and therapy. You are invited to participate in this study because you are a student in the Psychology department at Iowa State University and you participated in the Psychology Department's Mass Testing in the Fall of 2010.

## DESCRIPTION OF PROCEDURES

This is a completely online study designed to better understand your perceptions of mental illness. For the first part of the study, you will watch a brief online video about people's experiences with mental illness followed by an online survey about your reactions to the video. This part of the study should take about 1.5 hours and is worth two research credits.

One week later, you will be emailed with the opportunity to take a follow-up survey for more research credit. This part of the study should take 30-40 minutes and is worth one research credit.

## RISKS

We do not anticipate that these procedures will cause you any harm, but if you experience discomfort you may talk to the investigators about your concerns. You are free to skip any question that you do not wish to answer or that makes you feel uncomfortable. You are also free at any time to choose to end your participation. There will be no negative effects if you choose to skip a question or discontinue your participation in the study. If you choose to end your participation all data collected will be erased.

## BENEFITS

If you decide to participate in this study there will be no direct benefit to you other than learning about psychological research from a participant's perspective. Your participation in this project may help the researchers develop a better understanding of how people perceive those who have a mental illness.

## COSTS AND COMPENSATION

You will not have any costs from participating in this study. In addition, there is no monetary compensation for your participation. Rather, you will be compensated by receiving research credit in your undergraduate psychology course for participating in this study. If you agree to participate in this study, you can earn up to 3 research credits. It involves two online sessions distributed over 2 weeks. For the first part, you will watch a brief online video followed by an online survey (2 research credits). For the second part, you will be emailed two weeks later and asked to take another online survey (1 research credit). If you choose not to participate, you may contact the Course Information Office (515-294-8065) for alternative research options in order to earn research credit for your class.

## PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

## CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken to protect your privacy including: (a) assigning you a unique code number that will be used instead of your name; (b) combining your data with the data collected from other participants so that no individual information will be identifiable. If the results are published, your identity will remain confidential.

### QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study, you can contact the Principal Investigator, Ashley H. Hackler, M.S. at [vogelab@iastate.edu](mailto:vogelab@iastate.edu). You may also contact the supervising faculty member, Dr. David Vogel, at [dvogel@iastate.edu](mailto:dvogel@iastate.edu) or 294-1582.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, Iowa 50011.

\*\*\*\*\*

### PARTICIPANT SIGNATURE

By clicking “yes” below, you are indicating that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You may wish to print a copy of this informed consent document for your files since this is an online study.

## APPENDIX D: MEASURES

## STIGMA MEASURES

Note: (R) denotes reverse-coded items.

**Devaluation-Discrimination Scale (DD)**

**Please answer the questions below based on how you would respond when interacting with mental patients in various situations.**

	1 Not at all	2 A little	3 Some	4 A lot	5 A great deal
1. I would willingly accept a former mental patient as a close friend.	1	2	3	4	5
2. I would believe that a person who has been in a mental hospital is just as intelligent as the average person.	1	2	3	4	5
3. I believe that a former mental patient is just as trustworthy as the average citizen.	1	2	3	4	5
4. I would accept a fully recovered former mental patient as a teacher of young children in a public school.	1	2	3	4	5
5. I believe that entering a mental hospital is a sign of personal failure. (R)	1	2	3	4	5
6. If would not hire a former mental patient to take care of their children, even if he or she had been well for some time. (R)	1	2	3	4	5
7. I think less of a person who has been in a mental hospital. (R)	1	2	3	4	5
8. If I were an employer, I would hire a former mental patient if s/he is qualified for the job.	1	2	3	4	5
9. If I were an employer, I would pass over the applicant of a former mental patient in favor of another applicant. (R)	1	2	3	4	5
10. I would treat a former mental patient just as they would treat anyone.	1	2	3	4	5
11. I would be reluctant to date a man who has been hospitalized for a serious mental disorder. (R)	1	2	3	4	5
12. If I knew a person was in a mental hospital, most people will take his or her opinions less seriously. (R)	1	2	3	4	5

**Social Distance Scale (SDS)**

**Please answer the questions below, indicating the extent of your willingness or unwillingness to engage in the scenarios described, using the following scale:**

	1 Definitely Unwilling	2 Probably Unwilling	3 Probably Willing	4 Definitely Willing
1. How would you feel about renting a room in your home to someone with a mental illness?	1	2	3	4
2. How would you feel about working with someone with a mental illness?	1	2	3	4
3. How would you feel about having someone with a mental illness as your neighbor?	1	2	3	4
4. How would you feel about having someone with a mental illness as the caretaker of your children?	1	2	3	4
5. How would you feel about having your children marry someone with a mental illness?	1	2	3	4
6. How would you feel about introducing someone with a mental illness to your friends?	1	2	3	4
7. How would you feel about recommending someone with a mental illness for a job working with someone you know?	1	2	3	4

**Perceptions of Stigmatization by Others for Seeking Help (PSOSH)**

**Imagine you knew someone (friend, family member) who sought treatment with a mental health professional. If they sought mental health services, to what degree would you \_\_\_\_\_. Please read each statement and circle the response corresponding to the number that indicates how much the statement applied to you.**

	1 Not at all	2 A little	3 Some	4 A lot	5 A great deal
1. React negatively to them	1	2	3	4	5
2. Think bad things of them	1	2	3	4	5
3. See them as seriously disturbed	1	2	3	4	5
4. Think of them in a less favorable way	1	2	3	4	5
5. Think they posed a risk to others	1	2	3	4	5



**Self-Stigma of Seeking Help (SSOSH)**

**We often know some or have interacted with someone who we think is experiencing a mental health issue, for which they might seek help. This can bring up reactions about what seeking help would mean. Please use the 5-point scale to rate the degree to which each item describes how you might react in this situation.**

**If I knew someone (friend, family member) who sought professional psychological help**

	1 Strongly disagree	2 Disagree	3 Agree & Disagree Equally	4 Agree	5 Strongly Agree
1. I would feel they were inadequate if they went to a therapist for psychological help.	1	2	3	4	5
2. My confidence in them would NOT be threatened if they sought professional help. (R)	1	2	3	4	5
3. Seeking psychological help would make me feel they were less intelligent.	1	2	3	4	5
4. Their self-esteem would increase if they talked to a therapist. (R)	1	2	3	4	5
5. My view of them would not change just because they made the choice to see a therapist. (R)	1	2	3	4	5
6. It would make me feel they were inferior to ask a therapist for help.	1	2	3	4	5
7. I would feel okay about them if they made the choice to seek professional help. (R)	1	2	3	4	5
8. If they went to a therapist, I would be less satisfied with them.	1	2	3	4	5
9. My confidence in them would remain the same if they sought professional help for a problem they could not solve. (R)	1	2	3	4	5
10. I would feel worse about them if they could not solve their own problems.	1	2	3	4	5

## ASSESSMENT OF PREVIOUS CONTACT WITH MENTAL ILLNESS

### Level-of-Contact Report (LCR)

***A mental disorder or mental illness is a psychological or behavioral pattern that occurs in an individual and is thought to cause distress or disability. Please keep this definition in mind as you respond to the following questions.***

**Please read each of the following statements carefully and place a check by each statement that is true for you.**

	1 Yes	2 No
1. I have watched a movie or television show in which a character depicted a person with mental illness.	1	2
2. My job involves providing services/treatment for persons with a mental illness.	1	2
3. I have observed, in passing, a person I believe may have had a mental illness.	1	2
4. I have observed persons with a mental illness on a frequent basis.	1	2
5. I have a mental illness.	1	2
6. I have worked with a person who had a mental illness at my place of employment.	1	2
7. I have never observed a person that I was aware had a mental illness.	1	2
8. A friend of the family has a mental illness.	1	2
9. I have a relative who has a mental illness.	1	2
10. I have watched a documentary on the television about mental illness.	1	2
11. I live with a person who has a mental illness.	1	2

## DEMOGRAPHIC INFORMATION

Demographic questions were asked only once during the Psychology Department's Fall 2009 Mass testing.

Please fill in the blank or indicate the response that best answers the following questions.

- |  |   |
|--|---|
| <p>1. Age: _____</p>   | <p>5. Born in the United States?<br/>1 = Yes<br/>2 = No</p>   |
| <p>2. Gender<br/>1 = Male<br/>2 = Female</p>   | <p>6. Marital Status<br/>1 = Single<br/>2 = Married<br/>3 = Divorced<br/>4 = In a committed relationship<br/>5 = Other</p>  |
| <p>3. Ethnicity<br/>1 = Caucasian<br/>2 = African American<br/>3 = Asian American<br/>4 = Hispanic<br/>5 = Native American<br/>6 = International<br/>7 = Bi-racial<br/>8 = Other</p> | <p>7. Psych class enrolled in<br/>1 = 101<br/>2 = 230<br/>3 = 280<br/>4 = 101 &amp; 230<br/>5 = 101 &amp; 280<br/>6 = 230 &amp; 280<br/>7 = 101, 230, &amp; 280</p> |
| <p>4. Education level<br/>1 = Freshman<br/>2 = Sophomore<br/>3 = Junior<br/>4 = Senior<br/>5 = Graduate</p>  |   |

## APPENDIX E: DEBRIEFING FORM

Title of Study: Video Study

Thank you for your participation. The study you just participated in was designed to better understand the effects of watching a video on attitudes and stigma toward mental illness. You were randomly assigned to watch one of three videos that either had (a) a person with mental illness describe their experiences, (b) family and friends of someone with a mental illness describe their experiences, or (c) a control video in which mental illness was not discussed. We were examining whether these different videos differentially effected participants perceptions of stigma and willingness to talk to others about mental illness. Increased understanding of how people view mental illness may lead to interventions to help raise awareness of and reduce negative perceptions of psychological disorders. There were no right or wrong answers to the questions and as mentioned previously, all responses will be kept confidential and no identifying information will be associated with any of your responses. Your data will also be combined with the data of other participants to further ensure anonymity. These data will be kept in a locked cabinet, in a locked office.

If you have any concerns about the study you just participated in, please talk to one of the experimenters. If you have any additional questions about this investigation you may contact the Principal Investigator: Ashley H. Hackler, M.S., at [vogelab@iastate.edu](mailto:vogelab@iastate.edu). You may also contact the supervising faculty member, Dr. David Vogel, at [dvogel@iastate.edu](mailto:dvogel@iastate.edu) or 294-1582. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office of Responsible Research, Iowa State University, Ames, Iowa 50011.

## APPENDIX F: IRB APPROVAL LETTER

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

Institutional Review Board  
Office for Responsible Research  
Vice President for Research  
1138 Pearson Hall  
Ames, Iowa 50011-2207  
515 294-4566  
FAX 515 294-4267

**Date:** 3/17/2010

**To:** Ashley Hackler  
W112 Lagomarcino Hall

**CC:** Dr. David Vogel  
W112 Lagomarcino Hall

**From:** Office for Responsible Research

**Title:** Attitudes Study

**IRB Num:** 09-353

**Approval Date:** 3/17/2010

**Continuing Review Date:** 8/20/2010

**Submission Type:** Modification

**Review Type:** Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University. Please refer to the IRB ID number shown above in all correspondence regarding this study.

Your study has been approved according to the dates shown above. To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- Use only the approved study materials in your research, including the recruitment materials and informed consent documents that have the IRB approval stamp.
- Obtain IRB approval prior to implementing any changes to the study by submitting the "Continuing Review and/or Modification" form.
- Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.
- Stop all research activity if IRB approval lapses, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- Complete a new continuing review form at least three to four weeks prior to the date for continuing review as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Research investigators are expected to comply with the principles of the Belmont Report, and state and federal regulations regarding the involvement of humans in research. These documents are located on the Office for Responsible Research website <http://www.compliance.iastate.edu/irb/forms/> or available by calling (515) 294-4566.

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

### Acknowledgements

I would like to take this opportunity to express my sincere appreciation to those who helped me with various aspects of conducting research and the writing of this dissertation. First and foremost, Dr. David L. Vogel for his guidance, patience and support throughout my graduate education, especially in this research study. His assistance and words of encouragement have been a constant and much appreciated source of support. I would also like to thank my committee members for their efforts and contributions to this work: Dr. Douglas Bonett, Dr. Loreto Prieto, Dr. Norman Scott, and Dr. Nathaniel Wade.