

# The Effects of Specific Mental Illness Stigma Beliefs on Treatment Seeking Attitudes

Henry Arthur Boeh  
Marquette University

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THE EFFECTS OF SPECIFIC MENTAL ILLNESS STIGMA BELIEFS  
ON TREATMENT SEEKING ATTITUDES

by

Henry A. Boeh, M.S.

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ABSTRACT  
THE EFFECTS OF SPECIFIC MENTAL ILLNESS STIGMA BELIEFS  
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Henry A. Boeh, M.S.

Marquette University, 2015

Despite significant gains in the research base and effectiveness of psychotherapy, only thirty to forty percent of individuals experiencing mental illness symptoms seek treatment. A large barrier preventing many individuals from seeking psychotherapy is the stigma that surrounds mental illness. This study reviews the current state of mental illness stigma literature and presents a new Treatment Seeking Barriers Model (TSBM) that attempts to better explain the connection between stigma and treatment seeking. The goal of the current study was to isolate and manipulate responsibility or immutability beliefs related to depression in order to evaluate their relationship with treatment seeking stigma. These beliefs are primary barriers to treatment seeking in the TSBM. Public service announcements (PSAs) trying to increase or decrease beliefs of responsibility or immutability were created. Undergraduate students were randomly assigned to view one of the PSAs, and completed measures of stigma beliefs and attitudes before and after video exposure. Immutability beliefs were effectively decreased, while responsibility beliefs did not change. Furthermore, immutability belief change was significantly predictive of change in treatment seeking attitudes. Immutability beliefs may be a key target for future anti-stigma campaigns, given their sensitivity to brief PSAs observed in this study, as well as their predictive relationship with treatment seeking attitude change.

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## The Effects of Specific Mental Illness Stigma Beliefs on Treatment Seeking Attitudes

### Chapter 1 - Introduction

According to Kessler et al. (2005), approximately 50% of all individuals will meet diagnostic criteria for a mental illness in their lifetime. Less than 40% of individuals with a diagnosable mental illness actually receive stable treatment, defined as obtaining treatment from a professional for mental health problems without dropping out of that treatment (Kessler et al., 2001). In the United States, the median duration of delay between an individual recognizing the presence of and seeking treatment for anxiety, mood, and substance use disorders was 23 years, 4 years, and 13 years respectively (Wang et al., 2007). This is unfortunate because many treatments have been shown to be efficacious and because mental illness can become more resistant to treatment the longer an episode goes untreated. Both major depression (de Diego-Adelino et al., 2010) and generalized anxiety (Altamura et al., 2008) have been shown to respond relatively more favorably to pharmacological treatment if there is less time separating the onset of the symptoms and seeking treatment.

Inadequate and delayed treatment is often related to the stigma that is attached to mental illness. The current study explores the connection between mental illness stigma and treatment seeking, and attempts to establish theoretical and empirical support for a newly proposed Treatment Seeking Barriers Model (TSBM). By empirically manipulating several key belief structures in the TSBM, the current study hopes to isolate effective and efficient ways in which to manipulate the treatment seeking behaviors of individuals in the general public. A more comprehensive understanding of the active

mechanisms driving mental illness stigma may allow for more effective intervention campaigns aimed at decreasing stigma and increasing needed treatment-seeking.

### **The Stigmatization of Mental Illness and of Mental Health Treatment**

In his seminal work, Goffman (1963) defined stigma as “an attribute that is deeply discrediting” that causes a shift in perceptions of the bearer of this attribute from “a whole and usual person to a tainted, discounted one” (p. 3). Attributes that are stigmatized are numerous and varied. They can be visible, such as gender, behavior, and race, or invisible, such as sexual orientation and ethnicity. Some attributes are commonly perceived as controllable, such as obesity, whereas others are perceived as uncontrollable, such as physical disability (Hebl & Kleck, 2002; Major & O'Brien, 2005).

Corrigan (2004) proposed that stigmatization consists of four social-cognitive processes. First, cues (such as hearing about an event or seeing a member of a group) activate beliefs and attitudes about a group of people. The beliefs and attitudes about the group are stereotypes, which are efficient knowledge structures learned by the general public to aid in categorization. Stereotypes can be either positive (e.g., men in suits and ties are trustworthy) or negative (e.g., people who see psychiatrists are weak). If the stereotypes are endorsed by an individual and carry associated emotions (most often negative), then prejudice is present. Prejudiced stereotypes might lead to negative behaviors that cause mental, physical, or socio-environmental damage to another person or group, which is discrimination (Corrigan, 2004).

A common stereotype of mentally ill individuals is that they have a propensity for violent behavior (Ben Porath, 2002; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Martinez, Piff, Mendoza-Denton, & Hinshaw, 2011). Compared to persons with

physical illness, the public perceives individuals with mental illness as more emotionally unstable, less interpersonally interesting, less competent, and less confident (Ben Porath, 2002). Individuals with mental illness are ascribed less humanity than their counterparts with physical illness (Martinez et al., 2011). Different types of mental illnesses have been found to have different stereotypes attached to them. For example, people with psychotic features tend to be seen as hostile and incompetent, while people with neurocognitive deficits tend to be seen as warm and incompetent (Sadler, Meagor, & Kaye, 2012).

**Public stigma and self-stigma.** Corrigan (2004) argued that stigma towards mental illness and its treatment comprises public stigma and self-stigma. Public stigma involves the commonly held thoughts, beliefs, emotions, and behaviors directed at a minority group of individuals by the majority public.

If individuals who have a mental illness internalize this public stigma, self-stigma results. Corrigan, Watson, and Barr (2006) explain self-stigmatization in three steps. First, individuals with a mental illness must agree at some level with the publicly held stereotypes about mental illness. They may then develop self-concurrence, or the belief that these culturally held stereotypes apply to them. Believing such negative things to be true about themselves results in a negative impact on self-esteem and self-stigma (Corrigan et al., 2006; see also Bathje & Pryor, 2011).

Among one sample of individuals with mood disorders, more than 20 percent reported moderate or high levels of self-stigma (Brohan, Gauci, Sartorius, Thornicroft, & GAMAIN-Europe Study Group, 2010). In a study looking at the adolescent experience of having a mental illness, over 20 percent of adolescents reported frequent feelings of shame related to their mental health problems (Moses, 2010). Additionally, the perception

of stigma by individuals with a mental illness has been shown to persist long after substantial improvements in symptoms have occurred (Jenkins & Carpenter-Song, 2009; Link, Struening, Rahav, Phelan, & Nuttbrock, 1997).

Individuals do not need to have a mental illness that is relatively easily recognized by the public (due to associated behavioral or physical characteristics) in order to experience self-stigma. More easily hidden disorders, such as depression and anxiety, still result in significant stigma related anxiety (Pachankis, 2007). This appears to be in part due to a concern over the risk of an individual's hidden label being discovered by others, which in turn leads to vigilance and hyper-awareness of this label (Hinshaw & Stier, 2008).

**Structural stigma and perpetuation of stereotypes.** Negative stereotypes about mental illness are often perpetuated through the media. For example, children's media has been found to contain commonly used and predominantly negative references to mental illness, which often involve violent, unattractive, and criminal portrayals of people with mental illness (Wahl, 2003). In an analysis of prime-time television, Wilson, Nairn, Coverdale, and Panapa (1999) found that 75% of a sample of mentally ill television characters were portrayed as violent, and these characters were often associated with negative stereotypes such as being unproductive, asocial, and untrustworthy. Corrigan et al. (2005) found that 39% of newspaper stories about mental illness were focused on violence and dangerousness, while 20% focused on advocacy, and only 4% covered the topic of recovery from mental illness. Perhaps as a result, there is a strong public belief in the association between mental illness and violence (Ben Porath, 2002; Link et al., 1999; Martinez et al., 2011), despite the only weak association found in research (Corrigan &

Watson, 2005). The depiction of mental illness as violent and negative is common in media, and exposure to these stereotypes starts at a young age through children's media. It is difficult to believe that these portrayals do not play a sizable role in the public's stereotypes about mental illness.

The negative portrayal of mental illness in the media is an example of structural stigma (Corrigan, Markowitz, & Watson, 2004). Corrigan et al. (2005) defines structural stigma as a type of stigma that is “formed by sociopolitical forces and represents policies of private and government institutions that restrict the opportunities of the groups that are stigmatized” (p. 551). Although not necessarily intentional, the negative portrayal of mental illness in the media perpetuates damaging stereotypes which ultimately serve to limit the freedoms and options available to individuals with mental illness.

**Stigma as a barrier to treatment seeking.** One harmful impact of mental illness stigma is interference with treatment seeking behaviors. Both the awareness of public stigma towards mental illness and the experience of self-stigma surrounding mental illness can serve as barriers due to their association with negative attitudes towards treatment seeking (e.g., Komiya, Good, & Sherrod, 2000; Schomerus, Matschinger, & Angermeyer, 2009; Vogel, Wade, & Haake, 2006). Furthermore, Vogel, Wade, & Hackler (2007) found that experiences of self-stigma mediated the relationship between perceived public stigma and treatment seeking willingness. In other words, simply being aware of the existence of public stigma, without internalizing this stigma, did not significantly impact treatment seeking willingness. Public stigma seemed to impact treatment willingness by first being internalized as self-stigma.

Corrigan (2004) has proposed that individuals may avoid seeking mental health services in order to avoid receiving a label which could result in self-stigma and self-directed public stigma. Because many people are aware of the publicly held stereotypes concerning mentally ill individuals, it is logical that people faced with symptoms of mental illness may avoid seeking treatment in order to avoid formally categorizing themselves as part of the “mentally ill” population.

Even after someone has sought treatment, stigma continues to be a significant barrier. In a comprehensive meta-analysis examining the connection between self-stigma and various components of mental illness, Livingston and Boyd (2010) found 11 past studies that contained information related to treatment adherence. Of these 11 studies, seven demonstrated a significant negative relationship between levels of self-stigma and an individual’s probability of adhering to therapy or prescribed medications.

The act of receiving treatment for a mental illness can elicit perceptions of stigmatization and discriminatory experiences. Attending therapy has been linked with being treated with less respect, being treated as less competent, feeling inferior to others, and feeling ashamed (Verhaeghe, Bracke, & Christiaens, 2010). Also, Ben-Porath (2002) showed that depressed individuals in vignettes were viewed by undergraduate students as more emotionally unstable and less competent if they sought treatment. This negative effect of treatment seeking was not present in how undergraduates perceived vignettes of individuals seeking treatment for back pain, suggesting that seeking treatment for mental health problems is viewed more negatively by the public than seeking treatment for physical problems (Ben-Porath, 2002).

The negative beliefs and attitudes surrounding treatment contribute to individuals either avoiding treatment, or dropping out of treatment early. Additionally, treatment avoidance seems to involve both self-stigma (how someone feels about themselves for seeking treatment) and public stigma (how someone thinks others will view them for seeking treatment).

### **Past attempts at addressing mental illness stigma.**

*Education.* Significant work has been done in attempting to decrease mental illness stigma, and to increase treatment seeking behaviors in the public. Education about mental health topics has been one of the prevailing methods for stigma change in the public, and has been implemented in many settings. Anti-stigma education often addresses many areas of mental illness and its treatment. For example, Sharp, Hargrove, Johnson, and Deal (2006) presented college students with information about mental illness myths, normalizing mental illness, psychoeducation on disorders including prevalence, symptoms, and etiologies, types of therapies, effectiveness of therapies, and common mental health professionals. Tanaka, Ogawa, Inadomi, Kikuchi, and Ohta (2003) presented industrial and government workers with information on what mental health is, coping with stress, and various forms of mental illness. Perry et al (2014) tailored a program to adolescent students that addressed topics such as what mental illness stigma is, mental illness myths, building resilience towards mental illness, helping others, and raising awareness.

A number of researchers have assessed the impacts of mental illness education programs within public schools. Using only education, adolescents' attitudes of negative stereotypical beliefs and desired social distance have been reduced (Economou et al.,

2012; Esters, Cooker, & Ittenbach, 1998; Pinfold et al., 2003), and attitudes towards seeking treatment for a mental illness have been increased (Battaglia, Coverdale, & Bushong, 1990; Esters et al., 1998). Esters et al. (1998) saw stigma and treatment seeking attitude effects persist at a 12 week follow-up. Economou et al. (2012) observed that the desired effects of their 2 hour educational talk of decreased negative stereotypical beliefs (e.g., individuals with Schizophrenia always talk to themselves, individuals with Schizophrenia always suffer from split personalities) and desired social distance persisted to a 1 year follow-up.

Larger scale public educational interventions have also been evaluated. The Nuremberg Alliance Against Depression, formed in 2000, was a regional program intended to decrease mental illness stigma. Using a primarily education based approach delivered via posters, leaflets, information brochures, and a dedicated website, this campaign successfully increased depression awareness and increased positive attitudes toward medical treatment and antidepressants (Dietrich, Mergl, Freudenberg, Althaus, & Hegerl, 2010). Additionally, there was a decline in beliefs that depression was caused by a lack of self-discipline, and that it could be treated by individuals “pulling themselves together.” (Dietrich et al., 2010).

Overall, mental illness education in many forms has been shown to decrease stigmatizing attitudes (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003; Economou et al., 2012; Esters, Cooker, & Ittenbach, 1998; Perry et al., 2014; Pinfold et al., 2003; Rusch, Kanter, & Brondino, 2009; Tanaka et al., 2003), increase the belief that mental illness is treatable (Corrigan et al., 2001), increase willingness to help (Corrigan et al., 2003), increase treatment seeking attitudes (Battaglia, Coverdale, & Bushong, 1990;

Esters et al., 1998; Tanaka et al., 2003), and decrease perceptions of dangerousness (Penn, Kommana, Mansfield, & Link, 1999).

The theoretical framework of the educational content has been shown to matter. Rusch et al. (2009) demonstrated that a biomedical account of depression was unable to reduce stigmatizing attitudes, whereas contextual and neutral accounts were. Furthermore, they found that if the explanation presented to subjects did not match their preexisting beliefs about depression, their levels of stigmatizing attitudes were significantly higher than subjects whose preexisting beliefs matched the explanation. This phenomenon was the strongest when the explanation presented was the biomedical model.

***Comparison with other interventions.*** Contact with mentally ill individuals has been another commonly used and researched method for decreasing mental illness stigma (Corrigan & Oshaughnessy, 2007). While contact has been frequently shown to be more effective at reducing mental illness stigma attitudes than education (Chan, Mak, & Law, 2009; Corrigan et al., 2002; Pinfold et al., 2003; Yamaguchi, Mino, & Uddin, 2011), some exceptions and caveats have been identified.

In a meta-analysis of 72 studies evaluating anti-stigma interventions, Corrigan, Morris, Michaels, Rafacz, and Rusch (2012) found that while contact was more effective than education in decreasing various stigma beliefs and attitudes for adults, education was more effective than contact for adolescents. Also, Corrigan, Morris, Michaels, Rafacz, and Rusch (2012) found that video contact with mentally ill individuals, such as through a recorded speech, does not have nearly the same stigma reducing effect as face-to-face contact. Finally, Chan et al. (2009) evaluated the effects of presenting educational

and contact interventions to subjects in various orders. It was found that education followed by contact led to greater stigma reductions than education alone, but contact followed by education did not. This suggests that education may prime people for greater stigma reduction in response to future contact with a mentally ill individual.

***Public service announcements.*** A common method of delivering messages to large portions of a population is through public service announcements (PSAs). Corrigan (2012) defined PSAs as “issue focused advertisements” that can appear in multiple forms, including television, radio, print, outdoor, online, mobile, and other media. Corrigan (2012) also argued that in the case of mental health, minimal research has been done on the effects of PSAs intended to decrease mental illness stigma in a target population. The effects of a PSA on a population can be broken down into two primary outcomes. These include penetration (the level of awareness a population has of a particular PSA and its message) and impact (actual change in attitudes, beliefs, or behaviors intended by the PSA message; Corrigan 2012).

Evans-Lacko, Henderson, and Thornicroft (2012) called for research into numerous aspects of mental health PSAs, including optimal communication strategies, messages, target audiences, and delivery methods. A need for research into the short, medium, and long-term effects of mental health anti-stigma PSAs on target populations was also expressed. It was predicted that this type of research would allow effective and efficient active ingredients to be identified and put into practice (Evans-Lacko et al., 2012).

The cost of PSA campaigns is often a limiting factor in terms of how wide-reaching and long-lasting the campaign can be. Austin and Husted (1998) expressed that

mental health education PSAs need to take cost effectiveness into consideration, which includes factors such as actual costs, number of people in a target population reached by the PSA, and actual impact of a PSA campaign on individuals. Cost per exposure has also been highlighted as an important factor when developing PSA campaigns, and involves balancing the amount of impact a single PSA exposure has on an individual with the cost of providing that exposure (Austin & Husted, 1998).

Livingston, Cianfrone, Korf-Uzan, and Coniglio (2014) assessed the penetration and impact of a mental illness stigma social media intervention known as “In One Voice,” which consisted of a two minute video of a well-known sports figure discussing mental health topics and promoting a website connected with the PSA campaign. One year after the campaign had launched, it was found that almost half of young people sampled in the study remembered the campaign, website activity was elevated, and reductions in personal mental illness stigma and desired social distance from individuals with a mental illness were observed. These findings suggest that real-world mental illness stigma PSA campaigns can have a meaningful impact on target populations, though research into this area is still lacking.

*Education summary.* While education has been shown to be effective in decreasing stigma, past educational interventions have been very broad. This limits researcher’s abilities to identify effective unique elements of educational interventions. If active stigma reducing elements of education can be isolated, it may make more efficient and effective education based anti-stigma campaigns possible.

In order to begin addressing this need for targeted research, predominant theories of mental illness stigma are reviewed below. Common elements, as well as unique

components from each theory, are then synthesized into a new, more cohesive model of mental illness stigma and barriers to treatment seeking. This new model attempts to accurately detail treatment seeking barriers, and was used in guiding the current study's examination of active education mechanisms related to decreasing treatment stigma.

### **Mental Illness Stigma Theories**

The following is an overview of three primary theories of mental illness stigma. As will become evident, neither attribution theory, essentialism, nor the folk psychiatry model are able to independently account for all stigma processes impacting mental illness and treatment seeking.

**Attribution theory.** Attribution theory, introduced by Fritz Heider (1958), was developed in an attempt to explain how individuals understand and interpret the characteristics and actions of others. Attribution theory holds that individuals infer core characteristics of other persons based on explanations (i.e., attributions) of those other persons' behaviors. These causal attributions influence the individuals' emotional responses to the other person, their expectations for the person's future behavior, and their behavior towards the person. Causal attributions are particularly likely to occur if the behavior or attribute is unexpected or odd. In the case of mental illness, either symptom-related behaviors or a diagnostic label can serve as a trigger for causal attributions (Weiner, Perry, & Magnusson, 1988).

The causal attributions that have received the most attention from researchers involve assessments of the controllability and stability of an individual's behaviors and characteristics. Weiner et al. (1988) found that physical problems were seen as primarily uncontrollable with regard to cause, whereas mental-behavioral problems were primarily

seen as having controllable causes. Attributing the onset of the problem to uncontrollable factors evoked pity, liking, and helping behaviors (see also Menec & Perry, 1998).

Corrigan et al. (2003) experimentally manipulated whether mental illness was perceived as controllable or not. It was demonstrated that subjects tended to react with a lack of helping behaviors and an increased desire to be controlling when exposed to a fictional individual with schizophrenia if the mental illness was presented as controllable rather than uncontrollable (the individual's onset of schizophrenia was triggered by either a head injury in an uncontrollable car accident or heavy drug use). Additionally, decreasing the controllability/responsibility associated with depression has been shown to lead to increased pity and sympathy (Dolphin & Hennessy, 2014).

Consistent with attribution theory, research has supported the connection between biological disease explanations of mental illness and a decreased belief that individuals can control their illnesses (Farina, Fisher, Getter, & Fischer, 1978). Biological disease explanations have also been shown to decrease beliefs that people are to blame for their mental illness (Crisafulli, Holle, & Bulik, 2008; Kvaale, Haslam, & Gottdiener, 2013; Lebowitz, Pyun, & Ahn, 2014; Mehta & Farina, 1997; Rusch, Todd, Bodenhausen, & Corrigan, 2010).

Conversely, several researchers have found that framing mental illness as a biological disease results in an increased desire for social distance (Dietrich et al., 2004; Read, Haslam, Sayce, & Davies, 2006; Rusch et al., 2010; Speerforck, Schomerus, Pruess, & Angermeyer, 2014), increased perceptions of dangerousness (Dietrich, Matschinger, & Angermeyer, 2006; Kvaale et al., 2013; Read & Harre, 2001; Read et al., 2006; Walker & Read, 2002), increased fear (Read et al., 2006; Schnittker, 2008;

Speerforck et al., 2014), and greater perceptions of the seriousness of the mental illness (Phelan, 2005). Presenting mental illness as a biological disease to subjects has been found to be associated with beliefs that treatment would not be effective or would take more time (Kvaale et al., 2013; Lam & Salkovskis, 2007; Lebowitz et al., 2014; Phelan, 2005; Phelan, Yang, & Cruz-Rojas, 2006). With regard to self-stigma, for individuals with a mental illness, the biological model increases feelings of fear and implicit self-guilt (Rusch et al., 2010) and greater prognostic pessimism (Kemp, Lickel, & Deacon, 2014). Researchers and advocates have been relatively successful at increasing the general public's belief that mental illnesses are biological in nature (Schomerus, Schwahn, et al., 2012), which could be seen as concerning given the above findings.

The effects of a biological explanation seem to differ based on what type of mental disorder is being explained. Dietrich et al. (2004) demonstrated that a desire for social distance increases much more for schizophrenia than for depression when explained from a biological model, and Goldstein and Rosseli (2003) found that a biological model led to greater beliefs that people with depression are empathetic, caring, and easy to talk to. Lee et al. (2014) demonstrated that biological explanations led to increased social distance and decreased helping behaviors when used for schizophrenia, but not for depression, and that this difference was mediated by how dangerous schizophrenia and depression were each viewed to be by subjects (schizophrenia was viewed as more dangerous than depression). Several other studies have not found this difference between schizophrenia and depression, and instead found that a biological explanation leads to more negative emotions (Angermeyer et al., 2014) and desire for social distance (Speerforck et al., 2014) equally when used to explain both disorders.

**Essentialism theory.** Attribution theory attempts to explain how humans make sense of and react to abnormal behaviors. The theory of essentialism, on the other hand, attempts to explain how humans fundamentally classify and group other people, as well as how humans make sense of groups and group membership.

The theory of essentialism involves a form of thinking that is characterized by seeing categories of people as possessing deep, hidden, and stable properties (i.e., essences), which make the members of a category what they are (Prentice & Miller, 2007).

A group of elements have been proposed which characterize and define essentialistic beliefs (i.e. Haslam & Ernst, 2002; Haslam Rothschild & Ernst, 2000, 2002). Essentialistic beliefs often hold category membership as *immutable* or permanent. Essentialistic thinking treats category membership as *discrete* and black and white, which is determined by *defining* characteristics which are necessary features for group membership. Members of a category are often viewed as fundamentally the same, and categories are seen as *natural*, rather than socially created, which often involves seeing traits as being biologically caused.

Prentice and Miller (2007) have argued that essentialistic thinking has a number of important social consequences. Essentialistic thinking may lead to enhanced perceptions of differences between groups of people, and similarities within groups, due to the belief that a common core “essence” underlies group membership (Prentice & Miller, 2007). Furthermore, the essentialistic belief that category membership is fixed and unchanging may lead to a decreased motivation for change in group members (e.g., individuals with mental illness might be less motivated or hopeful that their condition

will ever improve). Finally, Prentice and Miller (2007) suggest that prejudice towards stigmatized groups may increase when attributes of that group, such as visible mental illness symptoms, are believed to be signs of group members' core character and quality.

In separate reviews of how mental illnesses are seen by the public and professionals, several scholars have argued that essentialistic beliefs are often used when trying to understand mental illnesses. Adriaens and De-Block (2013) argued that one reason for this phenomenon could be the rise in biological explanations for mental illnesses. This view is supported by empirical research. Keller (2005) found a direct correlation between subjects' beliefs in biological causes of human traits and a cluster of essentialistic beliefs. This cluster was comprised of beliefs that human traits are representative of discrete, uniform groups that have necessary inclusion criteria, are informative, and that group members with these shared traits have common core "essences." Other studies have demonstrated an increase in beliefs that mental illnesses are difficult or impossible to treat (immutability beliefs) when mental illnesses are presented to subjects as biologically caused (Lam & Salkovskis, 2007; Lebowitz, Ahn, & Nolen-Hoeksema, 2013; Phelan, 2005; Phelan et al., 2006).

Most importantly, a general correlation between essentialistic thinking and mental illness stigma has been identified. Howell, Weikum, and Dyck (2011) found a direct positive correlation between essentialistic beliefs (as measured by the essentialism index created by Bastian and Haslam [2006]) and several forms of mental illness stigma, including negative opinions about people with mental illness and negative attitudes towards community inclusion of people with mental illness.

**Folk psychiatry model.** The folk psychiatry model, like attribution theory, was developed in an attempt to model how people explain abnormal behavior (Haslam, 2005; Haslam, 2003; Haslam, Ban, & Kaufmann, 2007).

Beliefs and attitudes of people when presented with their own and others' behaviors are the focus of the folk psychiatry model. The model predicts that it is these beliefs that affect how persons with mental illness either seek or avoid help, how they understand their experience and symptoms, and how they are regarded by others (Haslam et al., 2007). Folk psychiatry prioritizes the importance of real life relevance and personal "lay-views" of the world over laboratory findings.

According to Haslam et al. (2007), in order for someone to begin explaining a behavior within the framework of the folk psychiatry model, the behavior must be pathologized. Pathologizing involves a judgment that a behavior is abnormal or deviant when compared to social norms. Judging a behavior as infrequent, unfamiliar, or rare increases the chances that it will be pathologized. Haslam et al. (2007) explains that once a behavior has been pathologized, an "explanatory gap" arises where the observer does not yet have a clear understanding of what is motivating this behavior. The folk psychiatry model provides three "explanatory modes," titled moralizing, medicalizing, and psychologizing, which people utilize in order to make sense of a pathologized behavior.

The "moralizing" explanatory mode involves a judgment that individuals are morally accountable for their abnormality. A moralizing explanation may view abnormal behavior as moral depravity, criminality, or sin, and may invoke the belief that

individuals engaging in pathologized behaviors require correction, coercion, punishment, or moral reproach.

The “medicalizing” explanatory mode involves the judgment that abnormal behavior is biological in origin (Haslam, 2005). When a behavior is viewed as biologically based, essentialistic thinking patterns can be activated, such as seeing the behavior as a sign of discrete group membership and assuming that the person must have certain characteristics because of this perceived group membership (Haslam & Ernst, 2002). This likely activates stigma related to a biological explanation for mental illness, such as increased desire for social distance, increased perceptions of fear and dangerousness, and greater beliefs in the seriousness and persistence of the deviant behavior in question (Kvaale et al., 2013; Phelan, 2005; Schnittker, 2008; Speerforck et al., 2014).

Psychologizing involves the judgment that abnormal behavior represents psychological dysfunction (Haslam, 2005). When people engage in psychologizing, they view and explain behavior in the context of its social, biological, and mental characteristics. Conceptualizing mental illness through the psychologizing mode has been positively correlated with the rise of psychology in western culture (Haslam, 2005), and is based on perceived causes of deviant behavior. Examples of these factors include personality traits and social learning experiences of early childhood.

The folk psychiatry theory proposes that the various explanatory modes will lead to different emotional and behavioral reactions when used to explain mental illness. A moralizing mode of explanation may lead to anger and blame, a medicalizing mode may

lead to pity and avoidance, and a psychologizing explanation is predicted to lead to reduced blame (Haslam et al., 2007).

Haslam et al. (2007) also predicted that factors such as cultural, family, and religious values could impact how frequently different explanatory modes will be used by different people. For example, more conservative religious beliefs, such as Protestantism, may lead people to utilize a moralizing explanatory mode more frequently than others.

Levi and Haslam (2005) examined the folk psychiatry model by presenting subjects with descriptions of disorders, and asking them to describe what they thought caused the disorders. They found that subjects tended to use certain explanatory modes, in line with the folk psychiatry model's modes, in a predictable way depending on the disorder being described. For example, depression tended to be explained in a psychologizing mode, while antisocial personality disorder tended to be explained in a moralizing mode. Furthermore, explanatory modes and attributions each accounted for a unique and non-overlapping percentage of variance in predicted subjects' desired social distance. Levi and Haslam (2005) concluded that each model was capturing different aspects of how the lay public conceptualizes mental illness.

**Stigma Theories Summary.** Attribution theory research clearly demonstrates that decreasing causal attributions of responsibility increase pity, liking, and helping behaviors (Menec & Perry, 1998; Weiner et al., 1988). According to attribution theory, explaining mental illness as biological should decrease the causal attribution of responsibility and lead to positive changes in anger, pity, helping behaviors, and blame. While a biological causal explanation has been shown to reduce attitudes of blame, it has also been shown to increase desire for social distance, perceptions of dangerousness, fear,

and decrease faith in treatment efficacy. This suggests that the dimensions of controllable/uncontrollable and non-biological/biological are not as equivalent as once predicted. Given this discrepancy, a biological disease explanation may be increasing stigma attitudes in a manner unexplained by attribution theory alone.

The theory of essentialism suggests that the human tendency to see and categorize differences plays a large role in mental illness stigma processes. Because of this tendency, when an abnormal behavior is observed it is often considered a sign of group membership in a group separate from other “normal” people. This establishment of an us/them distinction is often a key part of stigma, prejudice, and discrimination. Essentialistic thinking also plays a key role in beliefs that mental illness is immutable and cannot change. Additionally, because a belief in biological causes is associated with essentialistic thinking, disease models used in anti-stigma campaigns may be activating essentialistic thinking patterns linked with heightened prejudice and stereotyping (Bastian & Haslam, 2006; Keller, 2005; Rangel & Keller, 2011).

The folk psychiatry model has an open and broad conceptualization of mental illness stigma. This model accounts for a large amount of factors contributing to stigma, in an attempt to match the complexity of reality as closely as possible. The pathologizing step clearly explains why individuals might engage in various explanatory modes to make sense of observed abnormal behavior. The moralizing mode accounts for human morals and how they contribute to mental illness stigma in a way not achieved by other models. The medicalizing mode parallels essentialism in accounting for possible effects of biological explanations on stigma. Finally, its psychologizing dimension accounts for the unique, and possibly positive, process of seeing behaviors in the context of emotions,

learning history, and social factors. Researchers have shown that attribution theory and the folk psychiatry model each account for different parts of general stigma processes. Not only was the folk psychiatry model supported in this research, but it was shown that both it and attribution theory could independently explain stigma processes when used side by side.

Several problems exist in the state of existing mental illness stigma models. All three models reviewed above explain unique aspects of the stigma process, but these aspects do not fully overlap between the models. This means that no single model is able to account for the full range of stigma phenomena impacting mental illness and treatment seeking. Also, the models at times make discrepant predictions about how certain causal explanations will impact stigma. For example, attribution theory predicts that biological causal explanations will decrease stigma, while essentialism theory predicts that they will increase stigma. Finally, none of the pre-existing models have a significant focus on how stigma interferes with an individual's decision to seek treatment.

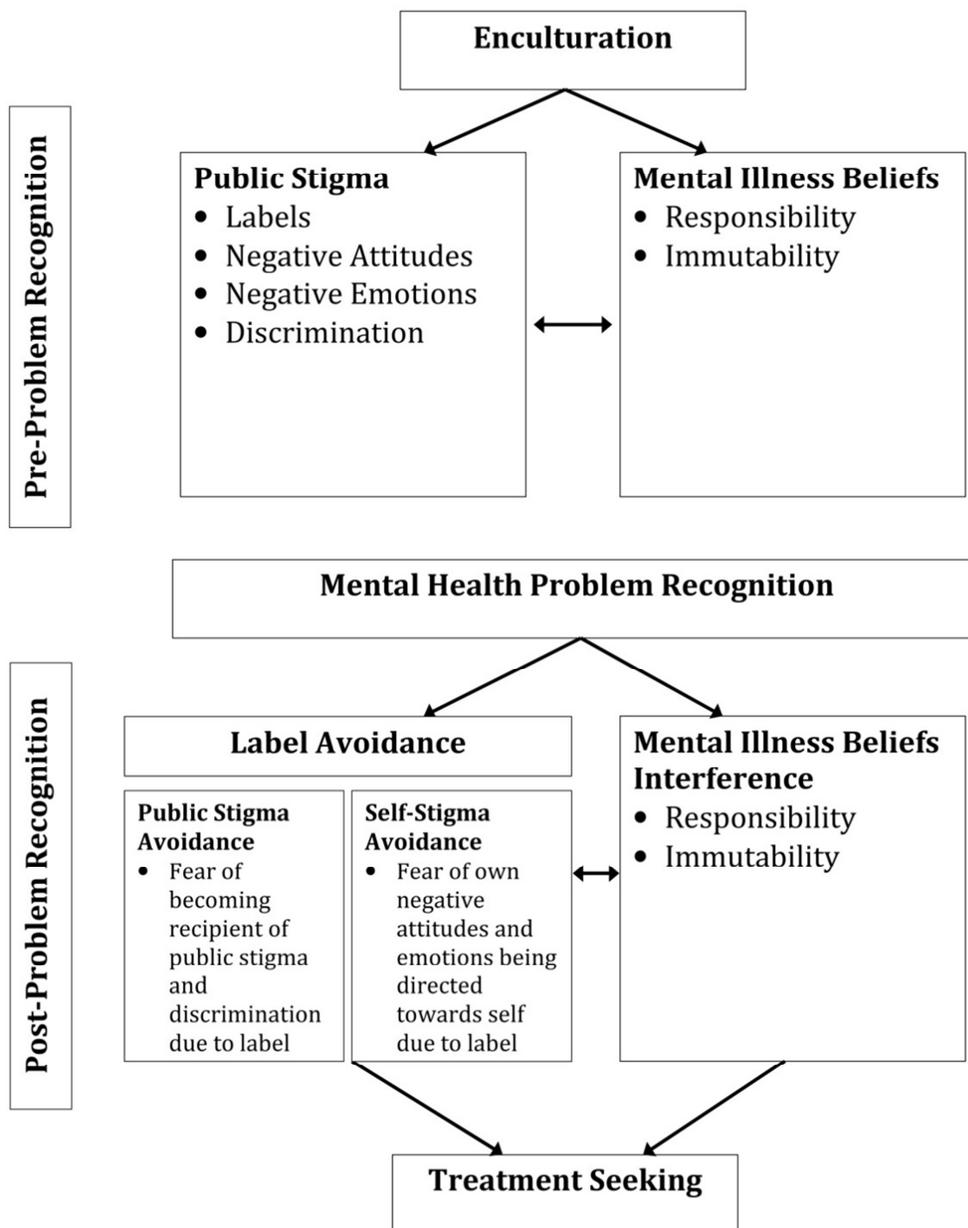
A new model that synthesizes many of the non-overlapping stigma mechanisms in pre-existing models may lead to a more accurate understanding of mental illness and treatment seeking stigma. Also, a new model that explicitly accounts for barriers to treatment seeking may aid future research and anti-stigma campaigns, and ultimately contribute to an increase in treatment seeking behaviors by individuals suffering from mental illness.

### **Treatment Seeking Barriers Model (TSBM)**

The following Treatment Seeking Barriers Model (TSBM) incorporates elements of each of the three preexisting stigma models. It is intended to provide clarity in the

fields of mental illness stigma and treatment seeking. The model is visually displayed in Figure 1.

The TSBM proposes that there are a number of factors that connect public stigma processes with seeking treatment for a mental illness. Mental illness stigma is conceptualized as a cultural phenomenon that is learned about and internalized early on in one's life. This enculturation leads to both awareness of mental illness stigma in the world, and beliefs about how mental illnesses operate. Stigma awareness involves the knowledge that the label of "mentally ill" has many negative connotations within society. Personal mental illness beliefs are more cognitive in nature, and involve beliefs about how much control and blame is involved in mental illness (responsibility beliefs), and how changeable mental illness is (immutability beliefs). If an individual never personally



*Figure 1.* Treatment Seeking Barriers Model. Mental illness stigma is acquired through enculturation during upbringing. As awareness of this stigma grows, individuals learn that the label of “mentally ill” has many negative connotations attached to it, and they develop certain beliefs about the properties of mental illness. If an individual experiences and recognizes mental illness symptoms, both label avoidance and their personal belief systems about mental illness will likely be activated. Both label avoidance and responsibility/immutability beliefs are predicted to impact treatment seeking. It is also predicted that label avoidance and beliefs impact treatment seeking independently from one another, so that treatment seeking could be altered if one part of the model (e.g., mental illness beliefs) are changed, while the other part (e.g., label avoidance) remains unchanged.

experiences or acknowledges symptoms of mental illness, these personal beliefs and public stigma awareness stay focused externally on other people.

**Problem recognition.** If an individual experiences mental illness symptoms, and these symptoms are recognized as deviant from the norm, the individual will likely recognize the possibility that the “mentally ill” label may apply to them. Without this recognition, no treatment seeking process can begin, and none of the TSBM’s barriers can be encountered. According to the TSBM, problem recognition causes stigma and beliefs that were once focused on the public to be turned inward on the self, possibly activating treatment seeking barriers. Bluhm, Covin, Chow, Wrath, & Osuch (2014) identified that adolescents and young adults experiencing elevated depression and anxiety tended to be unsure if these symptoms were attributable to a mental illness, or if their experiences were “normal.” It has also been found that greater levels of mental illness stigma can lead to lower rates of problem recognition, even if significant mental illness symptoms exist (Schomerus, Auer, et al., 2012). Jorm (2012) has advocated that an increase in public mental health literacy would increase recognition of abnormal mental health experiences, decrease stigma, and increase willingness for treatment seeking.

**Treatment seeking barriers.**

**Label Avoidance.** The TSBM assumes that some individuals will avoid treatment seeking in order to avoid associations with the label of “mentally ill.” Within many models of stigma, association with the stigmatized category of “mentally ill” can increase self-stigma and the perceived likelihood of experiencing public prejudice targeted against oneself.

Treatment seeking is a powerful way to associate oneself with a label of “mentally ill.” Seeking treatment involves admitting something is abnormal about one’s self, and often involves receiving a formal diagnosis (label). Therefore, avoiding treatment provides an individual a way to escape a label that could lead to becoming the recipient of public stigma and self-stigma. This barrier has been previously proposed by Corrigan (2004).

**Responsibility beliefs.** Beliefs of personal responsibility, guilt, blame, weakness, and moral failings are predicted by the TSBM to present a strong barrier to seeking the help of a mental health professional. According to attribution theory, when an individual endorses the belief that something is wrong with them that is viewed to be under their control, and are unable to effectively address this problem independently, they may feel weak and to blame for their symptoms. If an individual is utilizing the moralizing explanatory mode of the folk psychiatry model, they are more likely to see mental illness as a punishment for past behavior, or a deserved hardship that they must suffer through on their own. The TSBM assumes that it is more difficult to seek treatment for something representing weakness and failure, due to the guilt and perceived personal responsibility involved. Additionally, seeking treatment would represent a further admittance that an individual was too weak or ineffectual to solve their problems on their own. Ultimately, if a person believes they are responsible for their mental illness, they might also believe they do not deserve treatment.

In support of this, it has been demonstrated that, within populations experiencing significant psychological distress, increased self-blame for symptoms was significantly related to greater self-stigma towards treatment seeking (Tucker et al., 2013).

***Immutability beliefs.*** Essentialistic views of mental illness, including biomedical conceptualizations, are growing common in our culture (Schomerus et al., 2012). Inherent in these views is the assumption that mental illness is a permanent and immutable trait, which categorizes individuals into a discrete and unchanging group. Both the theory of essentialism and the medicalizing component of the folk psychiatry model deal heavily with the impact of seeing a mental illness as immutable on stigma. The TSBM assumes individuals possessing the view that mental illness is immutable will be less willing to seek treatment. If the source of their symptoms is believed to be unchangeable, treatment will likely be seen as ineffective and their motivation to seek help will decrease.

**TSBM Summary.** The TSBM proposes that once an individual has recognized mental illness symptoms as a problem, the barriers of label avoidance, responsibility beliefs, and immutability beliefs interfere with seeking treatment. An individual may decide to avoid treatment in order to not receive a label that could activate public and self-stigma and discrimination. Having beliefs that one is responsible for mental illness symptoms may lead to a belief that they don't deserve treatment. Finally, having beliefs that one's mental illness symptoms are permanent and unchanging may lead to a belief that treatment will not help.

Conceptualizing responsibility beliefs and immutability beliefs as barriers to treatment seeking is unique to the TSBM. Incorporating problem recognition as a key step in the treatment seeking process is also unique. The barrier of label avoidance has been previously proposed by Corrigan (2004), and is incorporated into the TSBM.

Decreasing an individual's desire to avoid labels associated with stigma known to exist in our culture is theorized to be difficult. One solution to decrease label avoidance is to decrease public stigma. This is an important goal, but changing societal beliefs and values may not be feasible for increasing treatment seeking behaviors in the short term.

Responsibility and immutability beliefs are thought to be more heavily based in an individual's, rather than a society's, understanding of mental illness and treatment. This understanding often involves either misinformation about mental illness, or a lack of important information about mental illness, making these beliefs more likely to be changeable through direct educational interventions.

### **Problem Statement**

Many individuals do not get effective treatment for mental health problems, often due to the stigma attached to mental illness and mental health services. Researchers have developed many ways of conceptualizing this stigma. However, no single model has been able to account for the full range of stigma processes impacting mental illness treatment seeking. Also, existing models do not always agree on how to effectively decrease stigma. A new model able to reconcile these disagreements is necessary if anti-stigma research and public campaigns are to be productive and effective.

In the area of educational interventions to decrease mental illness stigma, there is a lack of research into specific and isolated active mechanisms. General educational anti-stigma interventions have been evaluated and found to be mostly effective, but little research has been done on what specific parts of these interventions are *most* effective. With significant mental health problems continuing to go untreated due to stigma related

barriers, it is important that researchers learn how to most effectively and efficiently decrease these barriers and increase treatment seeking behaviors.

### **Current Study**

The current study evaluates educational messages about depression that target responsibility and immutability beliefs as described in the TSBM. Subjects will complete a battery of stigma measures before and after viewing an educational Public Service Announcement (PSA) video targeting one of the above beliefs. By exploring the effects of specific and targeted educational messages, the current study hopes to gain a greater understanding of how treatment seeking stigma can be effectively changed.

It is hypothesized that:

- (I) Educational interventions attempting to decrease either immutability or responsibility beliefs will lead to a decrease in measures of these beliefs, while educational interventions attempting to increase them will lead to an increase in measures of these beliefs.
- (II) Exposure to educational interventions attempting to decrease either responsibility or immutability beliefs will result in an increase in positive views toward treatment seeking, while educational interventions attempting to increase these beliefs will result in a decrease in positive views towards treatment seeking.

- (III) Attitudes related to label avoidance will not be significantly impacted by the educational interventions.
- (IV) Changes in views toward treatment seeking will be predicted by PSA related changes in responsibility and immutability beliefs, with decreasing responsibility/immutability beliefs predicting more positive changes in views toward treatment seeking.

## Chapter 2 - Methods

### Sample

This study's sample consisted of 495 subjects from the Marquette University undergraduate population. Subjects were recruited through a voluntary sign-up, advertised primarily in introductory psychology classes. Extra credit was granted as incentive for participation. Of 495 subjects who participated in Session 1, 82.8% returned for Session 2. See Appendix A for a flowchart of subject attrition and group assignment. For tests requiring pre-video scores only, the full sample from Session 1, regardless of Session 2 attendance, was utilized. Of all subjects, 69.8% were female and 30.2% were male. The average age of subjects was 19.0. Subjects were predominantly Freshmen (57.7%), followed by Sophomores (22.9%), Juniors (11.2%), and Seniors (8.1%). A majority of subjects were White/Caucasian (75.4%), followed by Other/Multiple Selections (8.4%), Hispanic/Latin-American (8.0%), Asian-American/Pacific Islander (6.2%), and Black/African-American (2.0%).

In regards to various levels of contact with mental illness and treatment, 49.9% of subjects endorsed knowing someone close to them who has/had serious mental health problems, and 24.3% endorsed receiving professional mental health treatment at some point. In regards to past treatment avoidance, 8.8% of participants acknowledged having not sought professional mental health treatment despite believing they had a psychological problem at some point in their lives, but receiving treatment at a different point in time, and 14.5% acknowledged treatment avoidance and never receiving treatment at any other times. Of the subjects that endorsed receiving mental health treatment, 39.2% described being very satisfied with their treatment, 52.0% were

somewhat satisfied, and 8.8% were not satisfied at all. Finally, 23.1% of subjects had pre-video depression scores categorized as moderate or higher. See Table 1 for raw subject numbers in each of the above categories.

Table 1  
*Demographic Characteristics of Session 1 and Session 2 Subjects*

Demographic Variable	Session 1 (n = 454)		Session 2 (n = 339)	
	Number	Percentage of Session 1 Subjects	Number	Percentage of Session 2 Subjects
<b>Gender</b>				
Male	137	30.2	102	30.2
Female	316	69.8	236	69.8
<b>Ethnicity</b>				
White/Caucasian	341	75.4	265	78.4
Asian-American/Pacific Islander	28	6.2	17	5.0
Hispanic/Latin-American	36	8.0	23	6.8
Black/African-American	9	2.0	7	2.1
Other/Multiple Selections	38	8.4	26	7.7
<b>Year in School</b>				
Freshman	262	57.7	197	58.1
Sophomore	104	22.9	78	23.0
Junior	51	11.2	38	11.2
Senior	37	8.1	26	7.7

Table 1 Continued

Demographic Variable	Session 1 (n = 454)		Session 2 (n = 339)	
	Number	Percentage of Session 1 Subjects	Number	Percentage of Session 2 Subjects
<b>Know someone with mental illness</b>				
Yes	227	50.1	166	49.0
No	226	49.9	172	50.7
<b>History of treatment</b>				
Yes	110	24.3	84	24.8
No	343	75.7	255	75.2
<b>Treatment satisfaction</b>				
Not satisfied at all	9	2.0	8	2.4
Somewhat satisfied	53	11.7	38	11.2
Very satisfied	40	8.8	31	9.1
<b>History of treatment avoidance</b>				
Yes	106	23.3	74	21.8
No	348	76.7	265	78.2
<b>Avoidance AND treatment history</b>				
Avoided and got help	40	8.8	27	8.0
Avoided and never got help	66	14.5	47	13.9
<b>Current depression level</b>				
Low	343	75.6	261	78.1
Moderate or higher	103	22.7	73	21.9

*Note.* The number of subjects endorsing each demographic variable in Session 1 and Session 2 are shown above. The Depression Symptoms category (see below for a description of measures used in the current study) determined by Depression Symptoms scores (less than 7 = low levels of depression, 7 or greater = moderate or higher levels of depression) is also provided, with the corresponding number of subjects falling into each category at Session 1 and Session 2.

## Procedures

Subjects completed the study over two sessions spaced one week apart. All data collection and presentation of manipulations was done using the online survey tool Google Forms. Upon arrival for Session 1, subjects received a page with instructions and the Session 1 Google Forms URL, and were directed to a computer. Subjects reviewed a digital consent form (Appendix B). Once consent was given, they created a self-generated ID for the purpose of anonymity when matching Session 1 and Session 2 data. They then completed a battery of stigma and treatment seeking attitude measures, detailed below, and scheduled to return for Session 2. Subjects were also instructed to bring personal headphones to Session 2, in order to listen to the PSA video.

At Session 2, subjects were given an instructions sheet with the Session 2 URL, as well as a randomly assigned group number, and directed to a computer. Depending on their assigned group, which was entered by subjects into the Google Forms survey, they viewed one of four experimental PSAs or a control PSA. These PSAs involved a video of scrolling text, with a voice reading the text. All videos began with a brief description of clinical depression, in order to control for possible differences in knowledge about the disorder.

In the experimental conditions, the videos differed according to their targeted belief (responsibility vs. immutability) and intended direction of manipulation (increase vs. decrease). In the Increase Responsibility PSA possible causes of depression that are within an individual's control were discussed, such as substance use, poor self-care, and isolation from other people. The Decrease Responsibility PSA discussed causes of depression outside of an individual's control, such as childhood events, life stress, and

loss of loved ones. In the Increase Immutability PSA, depression was presented as being difficult to treat, and that treatment was usually lengthy and not completely effective. The Decrease Immutability PSA presented treatments for depression as being very effective, of relatively short duration, and frequently successful at preventing future depression. The Control PSA contained only the standard depression description found in all PSAs with no mention of the cause or treatment of depression. The choice to format a control group in this manner has appeared elsewhere in the mental illness stigma literature (e.g., Lebowitz et al., 2014). See below for transcripts of all PSAs.

Furthermore, the PSAs were presented by a self-identified clinical psychologist, to enhance credibility of the information. The PSAs were developed based on information found in Kitchener and Jorm's (2002) Mental Health First Aid Manual. This document, intended for the public, discusses a number of mental illnesses, and discusses a wide range of information such as symptomology, etiology, and possible treatment options. These PSAs took a psychosocial approach when discussing the etiology and treatability of depression, given past findings that biological conceptualizations of depression can have negative effects on stigma attitudes, including increased desire for social distance from people with depression (Speerforck et al., 2014) and increased fear of people with depression (Angermeyer et al., 2014; Speerforck et al., 2014).

Immediately after viewing one of the PSAs, subjects completed the same battery of stigma and treatment seeking attitude measures from Session 1. Subjects were then debriefed (Appendix C) and given compensation in the form of extra credit. Additionally, due to the presence of a depression symptom measure, subjects were given a sheet listing local resources for treatment.

## Measures

All measures (and PSAs) focused specifically on depression in the current study. Evidence suggests that focusing on different disorders can lead to different results within stigma research (Dietrich et al., 2004; Goldstein & Rosseli, 2003). Because focusing on “mental illness” in general allows for too little control over how subjects interpret the term and can lead to inconsistent results (Rusch, Evans-Lacko, & Thornicroft, 2012), it was decided that depression would be focused on, given its relatively high lifetime prevalence rate (20.8%; Kessler et al., 2005). See Appendix D for a copy of all measures used in the current study.

**Demographics.** The demographic variables collected in the current study included: age, ethnicity, year in school, past contact with family or friends with mental illness, personal experience with seeking treatment, treatment satisfaction, and personal experience with avoidance of mental health treatment. For past contact, the answers of “no” and “not sure” were collapsed together. For past treatment, the answers of “yes, prior to last year” and “yes, within the last year” were collapsed together.

**Responsibility and Immutability Belief Inventory (RIBI).** The Responsibility and Immutability Belief Inventory (RIBI) was created for the current study in order to measure responsibility and immutability beliefs. This inventory was partly based on Corrigan et al.’s (2003) Attribution Questionnaire (AQ) and Day, Edgren, and Eshleman’s (2007) Mental Illness Stigma Scale (MISS). Subjects read a brief vignette about a man with depression named Harry, and then answered questions about how much blame and choice was thought to be involved in the development of Harry’s depression, and how

treatable or permanent Harry's depression was perceived to be. Responses were made on a 9-point scale ranging from a negative response to a positive response.

A pilot study with 125 undergraduate subjects revealed that the Responsibility Beliefs scale had an internal consistency of .87, and the Immutability Beliefs scale had an internal consistency of .80. Construct validity of the Responsibility Beliefs scale was supported by a correlation between this new subscale and subjects' attitudes on the Protestant Work Ethic scale ( $r=.34, p<.001$ ), which is based heavily in beliefs of personal responsibility for success or failure in life. Construct validity of the Immutability Beliefs scale was supported by a correlation between this scale and single face valid pilot study question asking about how effective subjects thought psychotherapy was at treating depression ( $r=.44, p<.001$ ).

In the current study, Responsibility Beliefs and Immutability Beliefs scales were created as summary scores of their respective items. The pre-video Responsibility Beliefs scale had an internal consistency of .85 (post-video = .90), and the pre-video Immutability Beliefs scale had an internal consistency of .77 (post-video = .83). In several analyses, Immutability and Responsibility Beliefs scores were dummy coded into high and low groups using a median split. See Appendix E for factor loadings of items in the Responsibility and Immutability dimensions.

**Attitudes Toward Seeking Professional Psychological Help Scale, Short Form (ATSPPH-SF).** The ATSPPH-SF used in the current study is a short form developed by Fischer and Farina (1995) based off of the original ATSPPHS created by Fischer and Turner (1970). It consists of 10 opinions about seeking treatment for a psychological problem, and subjects were asked to rate their level of agreement with each opinion on a

4-point scale consisting of disagree, partly disagree, partly agree, and agree. The ATSPPH-SF has been found to have an internal consistency of .77 with a student sample, and .78 with a medical sample (Elhai, Schweinle, & Anderson, 2008). Construct validity has been demonstrated for the ATSPPH-SF, with the measure correlating significantly with other measures of treatment stigma, as has Criterion validity, with the measure being significantly related to treatment seeking behaviors in the last 6 months (Elhai et al., 2008).

The Treatment Attitudes scale was created as a summary score of all ATSPPHS items in order to measure participants' attitudes towards seeking treatment for depression. In the current study, the pre-video treatment attitudes scale had an internal consistency of .78 (post-video = .82).

**Intentions to Seek Counseling Inventory (ISCI).** The ISCI, originally developed by Cash, Begley, McCown, and Weise (1975) provides information for how much subjects intend to seek counseling for a number of difficulties, if they encountered such difficulties. It consists of 17 issues that are psychosocial in nature, and subjects rated the likelihood that they would seek treatment for each issue on a 4-point scale consisting of very unlikely, unlikely, likely, and very likely. Kelly and Achter (1995) found the ISCI to have an internal consistency of .84. Because attitudes towards seeking treatment and actual intentions of seeking treatment if problems arise are not necessarily equivalent, this measure may allow for richer detail into subjects views of treatment seeking.

The Treatment Willingness scale was created as a summary score of ISCI items in order to measure participants' overall willingness to seek treatment for mental health

problems. In the current study, the pre-video willingness scale had an internal consistency of .87 (post-video = .88).

**Perceived Devaluation-Discrimination Scale (PDDS).** The Perceived Devaluation-Discrimination Scale (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989) was used to assess subjects' awareness and perception of public stigma in the general population. It was thought that this measure would provide an indirect measurement of label avoidance, with higher perceptions of perceived devaluation being theoretically linked with a greater desire to avoid the label receiving the devaluation. The survey consists of 12 statements about how most people view individuals with a mental illness. Subjects rated their level of agreement with the statements on a 6-point scale consisting of strongly disagree, disagree, disagree somewhat, agree somewhat, agree, and strongly agree. Link et al. (1989) found the 12-item scale to have an internal consistency of .76.

The Perceived Devaluation scale was created as a summary score of all PDDS items in order to measure participants perceptions of how much stigma and negative reactions towards depression exists in the general public. This was thought to be an indirect measure of label avoidance, with higher perceptions of stigma and negative reactions being associated with a greater desire to not possess the label in question. In the current study, the pre-video Perceived Devaluation scale had an internal consistency of .85 (post-video = .88).

**Self-Stigma of Seeking Help Scale (SSOSHS).** The SSOSHS possesses a unidimensional factor structure and well supported psychometric properties. It is a 10-item scale, with statements addressing how participants would hypothetically feel about

personally seeking treatment rated on a 5-point scale consisting of strongly disagree, disagree, agree and disagree equally, agree, and strongly agree. It has an internal consistency of .91, and a test-retest reliability of .72 (Vogel et al., 2006). Vogel et al. (2006) demonstrated predictive validity by using this scale to significantly differentiate individuals who sought psychological treatment from those who did not over a 2-month period.

The Treatment Seeking Stigma scale was created as a summary score of all SSOSHS items in order to measure participants' self-stigma associated with the thought of them personally seeking treatment for depression. In the current study, the pre-video Treatment Seeking Stigma scale had an internal consistency of .87 (post-video = .89).

**Etiology of Depression Scale (EDS).** The EDS, created by Goldstein and Rosselli (2003), consists of 11 factors that could possibly lead to depression. Subjects rated how much they believed each factor is an actual cause of depression on a scale ranging from 1 (definitely not a cause) to 7 (definitely a cause). Goldstein and Rosselli (2003) found that the items formed three distinct etiological dimensions corresponding with biological, psychological, and environmental causes of depression. The current study only utilized the biological dimension (3 items). This measure aided in assessing for the effects of preexisting biological etiology beliefs on pre-video measures. Preexisting etiological beliefs may be important to control for in the current study given past findings that these preexisting beliefs can have an impact on how subjects respond to new information about mental illness and treatment (Boysen & Vogel, 2008; Rusch et al., 2009).

The Biological Etiology Beliefs scale was created as a summary score of the three EDS items related to biological causes of depression in order to measure how strongly

participants' viewed depression as being biologically caused. In the current study, the pre-video Biological Etiology Beliefs scale had an internal consistency of .70 (post-video = .75). In several analyses, Biological Etiology Beliefs scores were dummy coded into high and low groups using a median split.

**Depression Anxiety and Stress Scale (DASS), depression subscale.** Current depression symptoms were measured using the depression subscale of the 21-item version of the Depression Anxiety and Stress Scale (DASS-21). The DASS-21 is the short form of the DASS-42, created by Lovibond and Lovibond (1995), which measures common symptoms experienced in a wide range of mental illness diagnoses. Subjects rate how much various symptom descriptions apply to them over the past week, on a scale ranging from 0 (did not apply to me at all) to 3 (Applied to me very much, or most of the time). For the current study, the seven items making up the depression subscale were used to measure depressive symptom severity in subjects. Sinclair et al. (2012) found an internal consistency of .91 for the depression subscale of the DASS-21 in a nonclinical sample of U.S. adults.

Lovibond and Lovibond (1995) suggested the following descriptive cut-offs for the DASS-21 depression subscale in a general (non-clinical) population: 0-4 (normal), 5-6 (mild), 7-10 (moderate), 11-13 (severe), and 14+ (extremely severe).

The Depression Symptoms scale was created as a summary score of DASS depression subscale items in order to evaluate participants' levels of depression. In the current study, the pre-video Depression Symptoms scale had an internal consistency of .91 (post-video = .91). For some analyses, Depression Symptoms scores were dummy coded into 2 groups based on the cut-offs described above. Depression Symptoms scores

less than 7 (normal to mild levels of depression) were coded into a “low” group, scores 7 or higher (moderate to extremely severe levels of depression) were coded into a “high” group.

### **Public Service Announcement Scripts**

**Standard psychoeducation introduction.** It was predicted that large variations in how each subject conceptualized depression could lead to unintended variance in the findings. To address this concern, psychoeducational information about depression occurred at the beginning of each PSA, in an attempt to standardize subjects’ understanding of the disorder:

“Hi, my name is Dr. Kim Skerven, Clinical Psychologist. I’d like to provide some information about depression and the (causes/treatment) of this disorder. Clinical depression is a mental disorder that involves an unusually sad mood and a loss of enjoyment and interest in activities that used to be enjoyable. This decreased mood and loss of interest must last continuously for at least two weeks before it is considered clinical depression. Other symptoms of clinical depression include a decrease of energy, slowed speech and movement, tiredness, feelings of guilt or worthlessness, trouble sleeping, changes in appetite, and difficulty concentrating. Some people with depression have thoughts about death or suicide. Depression interferes with an individual’s ability to carry out responsibilities in settings like work or school, and interferes with having satisfying personal relationships with others.”

**Increase responsibility beliefs.** This 2-minute PSA was intended to increase the responsibility beliefs subjects hold about depression. It used a psychosocial conceptualization of depression, and targeted areas such as personal thinking distortions, the role of engaging in repeated negative behaviors, and mood dependent behaviors:

“Research has identified a number of factors that can cause depression. The way a person thinks can lead to depression. When someone engages in very negative and distorted thinking--meaning thinking that is not accurate to reality--about themselves, about the world, and about the future, depression is more likely to occur. Feelings of guilt and shame due to past behaviors that violate an individual’s morals or values have also

been found to play a role in activating this disorder. An individual's behaviors can also lead to and perpetuate depression. For example, depression can result from withdrawing from people and isolating oneself, from becoming inactive, and from a general decline in self-care behavior. Finally, the abuse of certain substances, such as cocaine, amphetamines, narcotics, and alcohol, has been found to lead to this disorder. Many of these findings about the causes of depression can be found at the website of the National Institute of Mental Health. Thank you.”

**Increase immutability beliefs.** This 2-minute PSA was intended to increase the immutability beliefs subjects hold about depression by communicating the possible shortcomings and lengthy nature of psychotherapy when treating depression:

“Clinical depression is very serious and, unfortunately, can endure years or even decades. Depression is often treated with a form of therapy called cognitive behavioral therapy. This treatment involves weekly sessions with a Psychologist. Treatment can sometimes last for a number of years. For many people in treatment, depressive symptoms don't improve right away. Also, there is a high rate of depression returning after therapy has ended. Research shows that some individuals don't respond to treatment at all or never get rid of all of their depression symptoms, regardless of the length of therapy. Many who successfully complete cognitive behavioral therapy require further follow up treatments throughout their life, as their depression comes and goes. Researchers continue to try to improve the treatment of this disorder. Many of these findings about the treatment of depression can be found at the website of the National Institute of Mental Health. Thank you.”

**Decrease responsibility beliefs.** This 2-minute PSA was intended to decrease the responsibility beliefs subjects hold about depression. It used a psychosocial conceptualization of depression, and targeted areas such as the role of environment, learning history, and upbringing in the development of depression:

“Research has identified a number of factors that can cause depression. An individual's upbringing, including how the person was treated by his or her parents and how the person was taught by others to think about him or herself and the world, can lead to depression. Children who experience neglect from their caretakers are at a higher risk for depression. The loss of a parent during childhood can cause depression later in life. Experiencing a traumatic event, abuse, or chronic stressors, at any point in life, have also been found to increase risk for this disorder. Other factors

that can lead to depression are the death of a loved one, suffering from chronic pain or a chronic health condition, or losing a sense of independence. Many of these findings about the causes of depression can be found at the website of the National Institute of Mental Health. Thank you.”

**Decrease immutability beliefs.** This 2-minute PSA was intended to decrease the immutability beliefs subjects hold about depression by communicating the effectiveness of various forms of psychotherapy at treating depression:

“Clinical depression can be effectively treated with a form of therapy called cognitive behavioral therapy. This treatment involves weekly sessions with a Psychologist, for approximately 8 to 12 weeks. Depressive symptoms usually don’t improve right away, but they are usually effectively resolved by the end of the course of therapy. Many persons who complete cognitive behavioral therapy no longer meet criteria for a diagnosis of depression after treatment. Even individuals with severe depression have been shown to significantly benefit from cognitive behavioral therapy. Furthermore, this treatment has been shown to have long lasting effects that endure after treatment has ended. For example, this therapy has been found to be effective in preventing depression from recurring in the future. Many of these findings about the treatment of depression can be found at the website of the National Institute of Mental Health. Thank you.”

**Control PSA.** This 1-minute control PSA presented the introductory depression psychoeducation that was standard across all PSAs. No other message was included.

## Chapter 3 - Results

### Preliminary Exploratory Data Analyses

Descriptive statistics for all outcome measures used in the following analyses are shown in Table 2. See Table 1 for details of demographic variables used in the following analyses.

Scaled scores and pre-post video change scores for scales were evaluated for outliers. Scores were transformed into z scores (using the global mean for pre-video scores and the video condition mean for post-video scores). Scores that fell more than three standard deviations from the mean AND were at least one standard deviation away from the next highest score were considered outliers and removed from the data pool. Details of outlier removal can be found in Appendix A. No problems with missing data were found.

Testing the study's continuous measures for normality revealed moderate levels of negative skewness in pre- and post-video Responsibility and Immutability Beliefs, and moderate positive skewness in Biological Etiology Beliefs. This was successfully addressed using a square root transformation. Pre- and post-video Depression Symptoms were substantially positively skewed, which was successfully addressed using a logarithmic transformation. All tests were performed using transformed data, while all reported means and standard deviations are untransformed.

Table 2  
*Means and Standard Deviations for All Variables Examined in Current Study*

Variable Name	Session 1	Session 2
	( <i>n</i> = 454)	( <i>n</i> = 339)
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Responsibility Beliefs	3.21(1.39)	3.23(1.50)
Immutability Beliefs	3.22(1.18)	3.10(1.24)
Perceived Devaluation	3.26(0.80)	3.19(0.83)
Treatment Seeking Stigma	2.55(0.75)	2.43(0.76)
Treatment Attitudes	2.34(0.53)	2.25(0.55)
Treatment Willingness	2.25(0.57)	2.35(0.57)
Biological Etiology Beliefs	5.63(1.01)	5.66(1.02)
Depression Symptoms	0.57(0.65)	0.46(0.59)

*Note.* Numbers represent average item scores for each scale at Session 1 and Session 2. Responsibility Beliefs and Immutability Belief items ranged from 1 to 9, with lower scores representing lower endorsement of beliefs. Perceived Devaluation items ranged from 1 to 6, with lower scores representing less perceived devaluation and discrimination towards people with mental illness. Treatment Seeking Stigma items ranged from 1 to 5, with lower scores representing less personal stigma towards treatment seeking. Treatment Attitude items ranged from 1 to 4, with lower scores representing more positive attitudes towards treatment. Treatment Willingness items ranged from 1 to 4, with lower scores representing less willingness to seek treatment. Biological Etiology Belief items ranged from 1 to 7, with higher scores representing greater endorsement of a biological cause of depression. Finally, Depression Symptom items ranged from 1 to 4, with higher scores representing greater endorsement of depression symptoms.

In order to evaluate for differences between subjects who did not complete all study sessions and those who did, a one way multivariate analysis of variance was performed on the pre-video dependent variables of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, Treatment Willingness, Biological Etiology Beliefs, and Depression Symptoms. The

independent variable was dropout status (completed only Session 1 vs. completed both sessions). At the multivariate level, using Wilks' Lambda, there was a significant main effect of dropout on the combined dependent variables ( $F(8, 437) = 2.35, p = .018, \eta^2 = .04$ ). Further analysis at the univariate level revealed a main effect of dropout on Biological Etiology Beliefs ( $F(1, 444) = 5.74, p = .017, \eta^2 = .01$ ), with subjects who dropped out having higher Biological Etiology Beliefs than those who completed both sessions. However, due to the small effect size and lack of other main effects, this difference was not addressed in any way.

To assess for random pre-manipulation group differences, a one way multivariate analysis of variance was performed on the pre-video dependent variables of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, Treatment Willingness, Biological Etiology Beliefs, and Depression Symptoms. The independent variable was video condition. No significant multivariate or univariate effects of video condition on pre-video measures were found, suggesting equivalent groups.

### **Pre-Manipulation Analyses**

**Correlations.** In order to evaluate relationships between pre-manipulation study variables, bivariate correlations were calculated between the study measures of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, Treatment Willingness, Biological Etiology Beliefs, and Depression Symptoms. See Table 3 for all bivariate correlations.

Responsibility and Immutability Beliefs were both positively correlated with Perceived Devaluation. Responsibility Beliefs and Perceived Devaluation were positively

correlated with Treatment Seeking Stigma and Treatment Attitudes, but not correlated in any way with Treatment Willingness. Immutability Beliefs were positively correlated with Treatment Seeking Stigma and Treatment Attitudes, and negatively correlated with Treatment Willingness. Immutability and Responsibility Beliefs did not correlate significantly.

Treatment Willingness was negatively correlated with Treatment Seeking Stigma and Treatment Attitudes. Treatment Seeking Stigma and Treatment Attitudes were significantly positively correlated.

Current Depression Symptoms were positively correlated with Immutability Beliefs and Treatment Seeking Stigma. Biological Etiology Beliefs were positively correlated with Treatment Willingness and negatively correlated with Responsibility Beliefs, Immutability Beliefs, Treatment Seeking Stigma, and Treatment Attitudes.

Table 3  
*Bivariate Correlations for Pre-Video Variables (n = 454)*

	1	2	3	4	5	6	7
1. Responsibility Beliefs	---						
2. Immutability Beliefs	0.07	---					
3. Perceived Devaluation	0.23***	0.21***	---				
4. Treatment Seeking Stigma	0.15**	0.33***	0.27***	---			
5. Treatment Attitudes	0.27***	0.26***	0.15**	0.53***	---		
6. Treatment Willingness	0.01	-0.21***	-0.07	-0.28***	-0.41***	---	
7. Depression Symptoms	0.03	0.20***	0.02	0.23***	0.03	0.04	---
8. Biological Etiology Beliefs	-0.23***	-0.16***	-0.08	-0.18***	-0.25***	0.11*	0.01

*Note.* Bivariate correlations between pre-video continuous variables are shown above.

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

**Effects of subject demographics.** In order to evaluate possible effects of subject demographics on pre-video measures, a one-way multivariate analysis of variance was performed on the dependent variables of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, Treatment Willingness, Biological Etiology Beliefs, and Depression Symptoms. The independent variables included gender, knowing someone with a mental illness, past history of treatment, past history of treatment avoidance, and level of pre-video Depression Symptoms (low vs. moderate and higher), all of which were dichotomous variables.

At the multivariate level, using Wilks' Lambda, there was a significant main effect of knowing someone with a mental illness ( $F(6, 406) = 2.82, p = .011, \eta^2 = .04$ ), past history of treatment avoidance ( $F(6, 406) = 2.87, p = .009, \eta^2 = .04$ ), and Depression Symptoms category ( $F(6, 406) = 2.89, p = .009, \eta^2 = .04$ ) on the combined dependent variables.

Further analysis at the univariate level revealed a main effect of knowing someone with a mental illness on Treatment Attitudes ( $F(1, 411) = 12.35, p < .001, \eta^2 = .03$ ), Responsibility Beliefs ( $F(1, 411) = 5.11, p = .024, \eta^2 = .01$ ), and Perceived Devaluation ( $F(1, 411) = 4.00, p = .046, \eta^2 = .01$ ). Subjects who knew someone with a mental illness had more positive Treatment Attitudes, lower Responsibility Beliefs, and lower Perceived Devaluation, than subjects who did not know someone with a mental illness. See Table 4 for means and standard deviations.

Table 4  
*Effect of Knowing Someone with Mental Illness on Select Pre-Video Variables*

	Knows Someone With Mental Illness	
	Yes ( <i>n</i> = 227)	No ( <i>n</i> = 226)
Pre-Video Variables	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Responsibility Beliefs	3.02 (1.33)	3.40 (1.42)
Perceived Devaluation	3.17 (0.84)	3.35 (0.75)
Treatment Attitudes	2.22 (0.53)	2.45 (0.51)

*Note.* The above table shows means and standard deviations for all pre-video variables that were significantly affected by knowing someone with a mental illness. Pre-video variables involved in non-significant effects are not listed. Numbers represent average item scores for each measure.

There was a univariate main effect of history of treatment avoidance on Treatment Attitudes ( $F(1, 411) = 6.65, p = .010, \eta^2 = .02$ ), Treatment Seeking Stigma ( $F(1, 411) = 15.52, p < .001, \eta^2 = .04$ ), and Immutability Beliefs ( $F(1, 411) = 4.05, p = .045, \eta^2 = .01$ ). Subjects who endorsed a history of treatment avoidance had more negative Treatment Attitudes, higher Treatment Seeking Stigma, and higher Immutability Beliefs than subjects who had not avoided treatment in the past. See Table 5 for means and standard deviations.

Table 5  
*Effect of History of Treatment Avoidance on Select Pre-Video Variables*

	History of Treatment Avoidance	
	Yes ( <i>n</i> = 106)	No ( <i>n</i> = 348)
Pre-Video Variables	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Immutability Beliefs	3.58 (1.39)	3.11 (1.08)
Treatment Seeking Stigma	2.87 (0.81)	2.45 (0.71)
Treatment Attitudes	2.40 (0.53)	2.32 (0.54)

*Note.* The above table shows means and standard deviations for all pre-video variables that were significantly affected by a history of treatment avoidance. Pre-video variables involved in non-significant effects are not listed. Numbers represent average item scores for each measure.

Finally, there was a univariate main effect of pre-video Depression Symptoms on Treatment Seeking Stigma ( $F(1, 411) = 5.68, p = .018, \eta^2 = .01$ ) and Immutability Beliefs ( $F(1, 411) = 4.87, p = .028, \eta^2 = .01$ ). Subjects who had moderate or higher levels of pre-video Depression Symptoms had higher Treatment Seeking Stigma and higher Immutability Beliefs than subjects with low levels of pre-video Depression Symptoms. See Table 6 for means and standard deviations.

Table 6  
*Effect of Depression Symptoms on Select Pre-Video Variables*

	Depression Symptoms	
	Low ( <i>n</i> = 343)	Moderate or Higher ( <i>n</i> = 103)
Pre-Video Variables	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Immutability Beliefs	3.09 (1.07)	3.67 (1.37)
Treatment Seeking Stigma	2.47 (0.73)	2.85 (0.76)

*Note.* The above table shows means and standard deviations for all pre-video variables that were significantly affected by Depression Symptom level. Pre-video variables involved in non-significant effects are not listed. Numbers represent average item scores for each measure.

### Effects of Video Manipulation

**Control group.** Possible changes between pre- and post-video exposure in the control group were explored, in order to evaluate how stable study variables were over time, as well as to evaluate possible effects of the depression psychoeducation in the absence of any other information. A repeated measures multivariate analysis of variance was performed on the pre- and post-video dependent variables of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness. The variables of gender, knowing someone with a mental illness, history of treatment, history of treatment avoidance, pre-video Biological Etiology Beliefs, and pre-video Depression Symptoms were included as covariates, due to their previously observed and/or theoretically predicted relationships with the dependent variables. See Table 7 for covariate descriptives. Results of the multivariate test, using Wilks' Lambda, revealed no significant effect of time within the control group on the combined dependent variables ( $F(6, 21) = 1.22, p = .337, \eta^2 = .26$ ). Because of

this, the control group was removed from further analyses, and it was judged appropriate to evaluate the experimental video conditions for differences related to the experimental manipulation.

Table 7  
*Covariate Means and Standard Deviations*

Covariate Name	Session 1 Descriptives
	( <i>n</i> = 454)
	<i>M</i> ( <i>SD</i> )
Gender	1.70 (0.46)
Knowing Someone with MI	1.50 (0.50)
History of Treatment	1.24 (0.43)
History of Treatment Avoidance	0.23 (0.42)
Pre-video Biological Etiology Beliefs	5.63 (1.01)
Pre-video Depression Symptoms	0.57 (0.65)

*Note.* Means and standard deviations for all covariate variables are shown in the table above. All covariates were collected prior to video exposure. Numbers represent average item scores for each measure.

**Experimental groups.** In order to evaluate what impact the main study manipulation (exposure to 1 of 4 PSAs) had on outcome measures, a mixed method repeated measures multivariate analysis of variance was performed on the dependent variables of Responsibility Beliefs, Immutability Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness. The within-subjects variable was time (pre/post video), and the between-subjects independent variable was video condition. The variables of gender, knowing someone with a mental illness, history of treatment, history of treatment avoidance, pre-video Biological

Etiology Beliefs, and pre-video Depression Symptoms were included as covariates.

Means and standard deviations for pre- and post-video variables in each video condition are presented in Table 8.

At the multivariate level, using Wilks' Lambda, a main within-subjects effect of time on the combined dependent variables was found ( $F(6, 299) = 3.00, p = .007, \eta^2 = .06$ ). A significant within-subjects interaction effect between time and video condition on the combined dependent variables was also found ( $F(18, 903) = 1.78, p = .023, \eta^2 = .03$ ).

Further analysis at the univariate level revealed a main effect of time on Immutability Beliefs ( $F(1, 304) = 6.78, p = .010, \eta^2 = .02$ ), with Immutability Beliefs decreasing in general from pre-video to post-video. A main within-subjects effect of time on Treatment Seeking Stigma was also observed ( $F(1, 304) = 8.10, p = .005, \eta^2 = .03$ ), with Treatment Seeking Stigma scores decreasing (becoming more positive in regards to stigma) in general from pre-video to post-video. Finally, a within-subjects interaction effect between time and video condition on Immutability Beliefs was found ( $F(1, 304) = 6.37, p < .001, \eta^2 = .06$ ).

Table 8  
*Means and Standard Deviations of Pre- and Post-Video Variables in Each Video Condition*

Variable	Video Condition							
	Increase Responsibility ( <i>n</i> = 101)		Increase Immutability ( <i>n</i> = 75)		Decrease Responsibility ( <i>n</i> = 70)		Decrease Immutability ( <i>n</i> = 74)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Responsibility Beliefs	3.19 (1.33)	3.41 (1.50)	3.20 (1.51)	3.24 (1.63)	3.12 (1.20)	3.14 (1.35)	3.25 (1.35)	3.27 (1.57)
Immutability Beliefs	3.25 (1.10)	3.08 (1.15)	3.35 (1.15)	3.57 (1.29)	3.21 (1.16)	3.17 (1.30)	2.99 (1.05)	2.66 (1.12)
Perceived Devaluation	3.30 (0.82)	3.21 (0.91)	3.38 (0.74)	3.30 (0.73)	3.19 (0.76)	3.08 (0.78)	3.21 (0.74)	3.14 (0.81)
Treatment Seeking Stigma	2.49 (0.71)	2.36 (0.76)	2.61 (0.79)	2.51 (0.79)	2.65 (0.74)	2.47 (0.77)	2.61 (0.76)	2.42 (0.74)
Treatment Attitudes	2.37 (0.57)	2.24 (0.60)	2.33 (0.57)	2.22 (0.56)	2.36 (0.48)	2.31 (0.51)	2.33 (0.53)	2.26 (0.52)
Treatment Willingness	2.28 (0.58)	2.42 (0.55)	2.21 (0.61)	2.31 (0.64)	2.26 (0.52)	2.28 (0.51)	2.25 (0.54)	2.33 (0.60)

*Note.* The above table contains pre- and post-video variable means and standard deviations within each video condition. See text for significant repeated measures effects. Numbers represent average item scores for each measure.

In order to interpret the within-subjects interaction between time and video condition on Immutability Beliefs, the data set was split by video condition and repeated measures ANOVAs were performed on pre- and post-video Immutability Beliefs for each video condition, with the same covariates used previously. In the decrease immutability video condition, Immutability Beliefs significantly decreased from pre-video to post-video ( $F(1, 67) = 6.40, p = .014, \eta^2 = .09$ ). Immutability beliefs did not significantly change in any other video condition. This effect is visually represented in Figure 2.

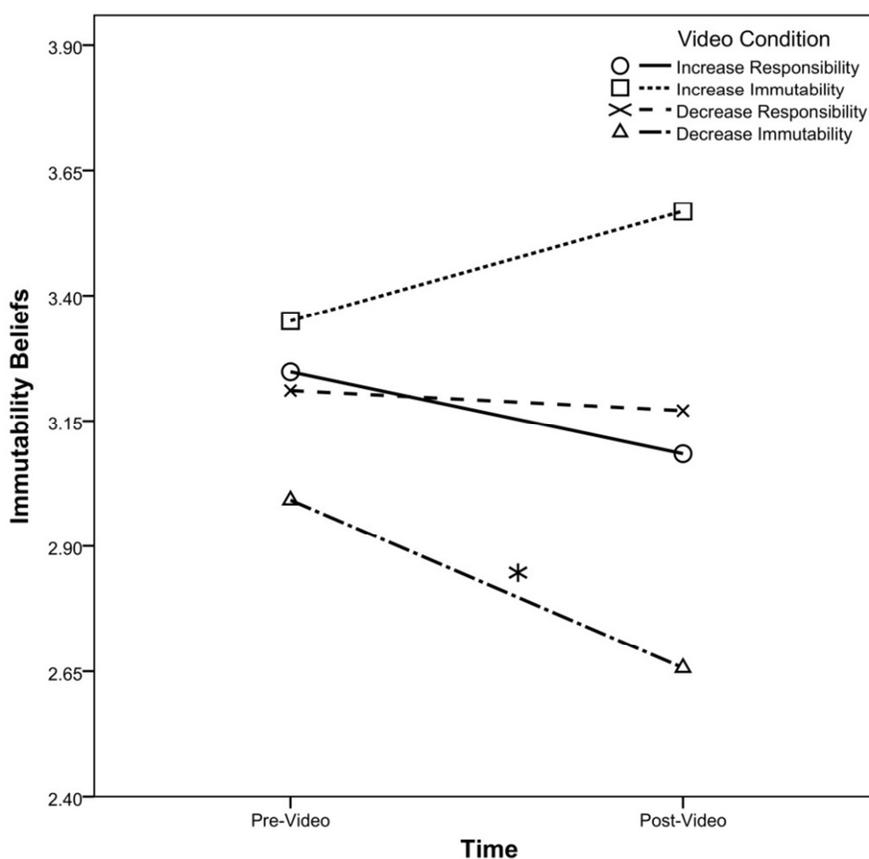


Figure 2. Change in Immutability Beliefs after video exposure. Pre- and post-video Immutability Beliefs in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Average Immutability Belief item scores are represented on the Y axis. \* $p < .05$ .

Despite a lack of significant interactions between time and video condition on Responsibility Beliefs, Perceived Devaluation, Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness, similar repeated measures ANOVAs were performed in order to explore any possible changes in these variables. The data set was again split by video condition and the same covariates were used as in previous tests.

In the increase immutability video condition, Treatment Seeking Stigma significantly decreased from pre-video to post-video ( $F(1, 66) = 10.07, p = .002, \eta^2 = .13$ ). This effect is visually represented in Figure 3. No significant changes in Treatment Seeking Stigma were observed in any other video condition. There were no significant changes from pre-video to post-video in Responsibility Beliefs (Figure 4), Perceived Devaluation (Figure 5), Treatment Attitudes (Figure 6), or Treatment Willingness (Figure 7), in any of the video conditions.

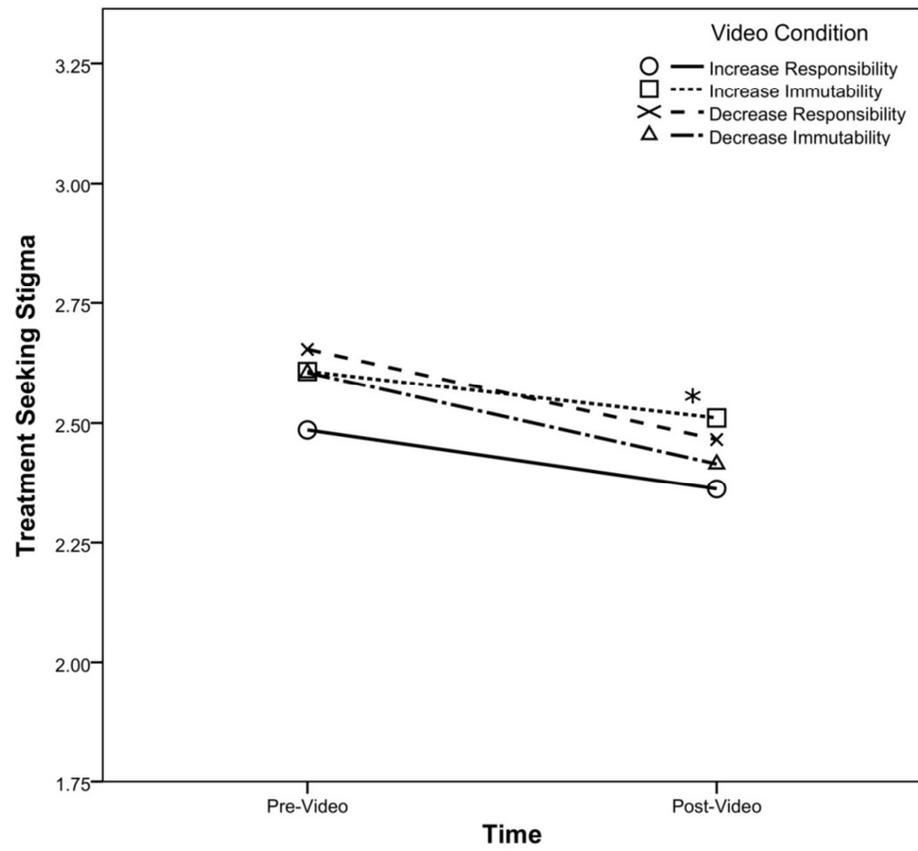
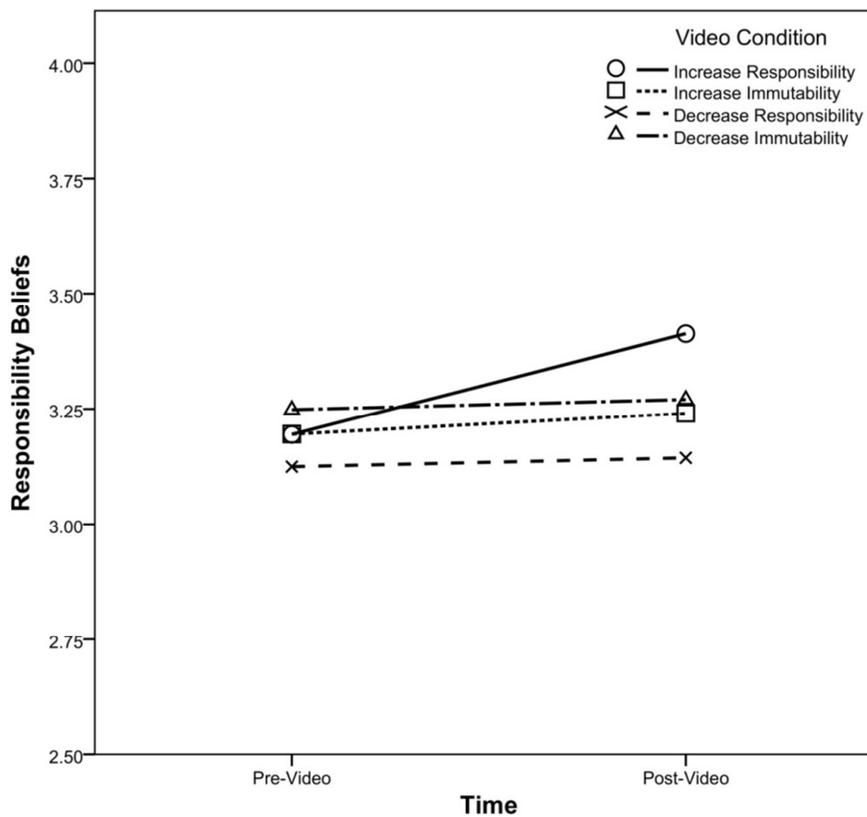
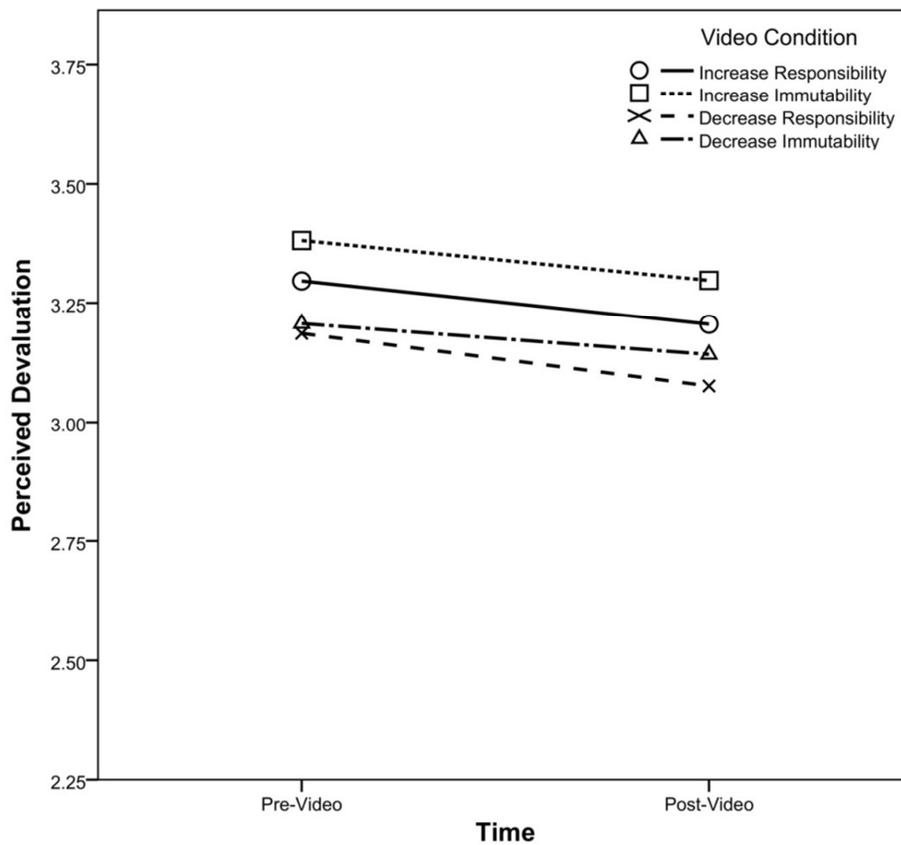


Figure 3. Change in Treatment Seeking Stigma after video exposure. Pre- and post-video Treatment Seeking Stigma in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Y axis numbers represent average Treatment Seeking Stigma item scores. \* $p < .05$ .



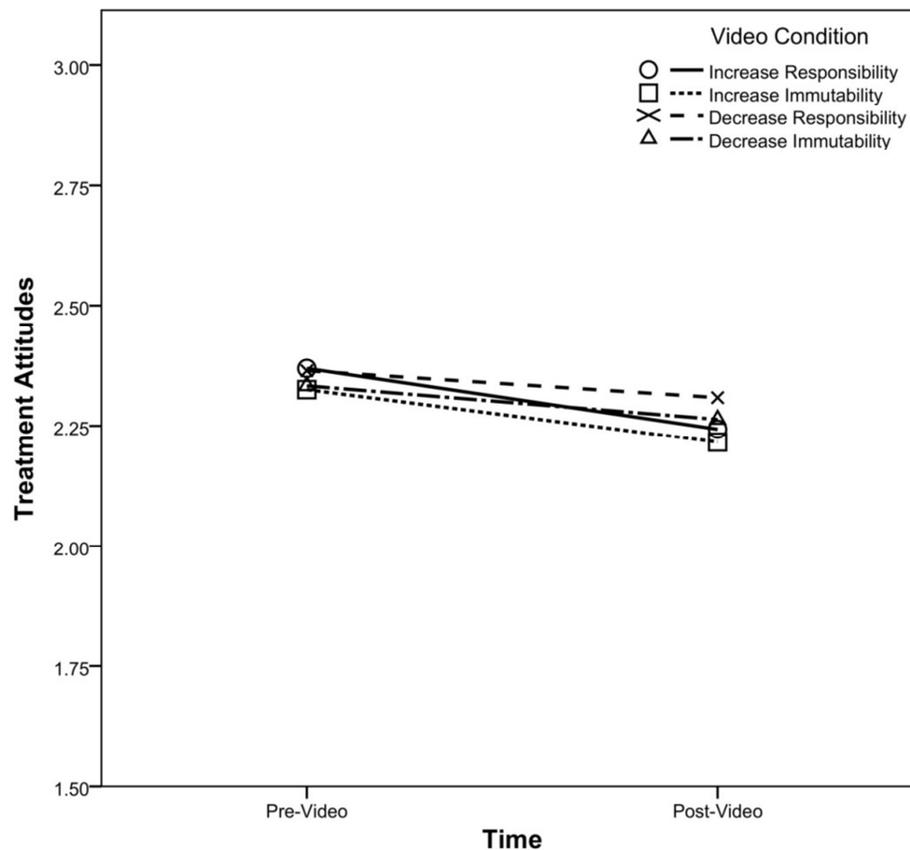
*Figure 4.* Change in Responsibility Beliefs after video exposure. Pre- and post-video Responsibility Beliefs in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Y axis numbers represent average Responsibility Belief item scores.

\* $p < .05$ .



*Figure 5.* Change in Perceived Devaluation after video exposure. Pre- and post-video Perceived Devaluation in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Y axis numbers represent average Perceived Devaluation item scores.

\* $p < .05$ .



*Figure 6.* Change in Treatment Attitudes after video exposure. Pre- and post-video Treatment Attitudes in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Y axis numbers represent average Treatment Attitudes item scores.

\* $p < .05$ .

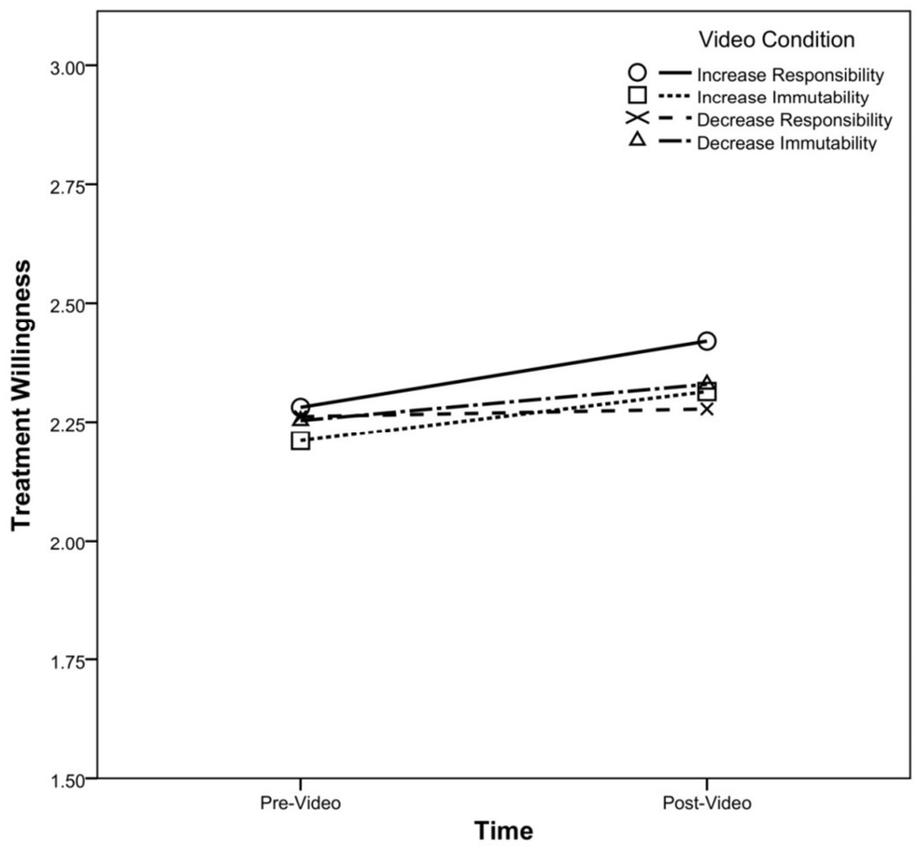


Figure 7. Change in Treatment Willingness after video exposure. Pre- and post-video Treatment Willingness in each video condition are shown above. Time is represented on the x axis, and video conditions are represented by separate lines. Y axis numbers represent average Treatment Willingness item scores. \* $p < .05$ .

### **Relationships Between Change in Beliefs and Change in Treatment Stigma**

Multiple regressions were utilized in order to evaluate whether change in mental illness beliefs predicts change in treatment seeking stigma. Data were collapsed across all study conditions, and numerous hierarchical multiple regressions were performed to assess the ability of Responsibility and Immutability Beliefs change scores to predict change in either Treatment Seeking Stigma, Treatment Attitudes, or Treatment Willingness after controlling for the influence of gender, knowing someone with a mental illness, history of treatment, history of treatment avoidance, pre-video Biological Etiology Beliefs, and pre-video Depression Symptoms. For each hierarchical regression, predictor variables were entered in two separate batches. The first batch included the covariate variables, as well as a relevant pre-video variable (either Treatment Seeking Stigma, Treatment Attitudes, or Treatment Willingness, depending on the dependent variable being examined) in order to control for baseline scores. The second batch included the primary predictor variable, which was either change in Responsibility Beliefs or change in Immutability Beliefs.

This method of analyzing change within a multiple regression is known as the regressor variable method, and is an alternative to using a simple change score as the dependent variable, which some researchers have argued can be unreliable in certain contexts (see Allison, 1990 for a review on the regressor variable and change score methods of assessing change). Separate hierarchical regressions were run for all combinations of predictor variables (change in Responsibility Beliefs, change in Immutability Beliefs) and dependent variables (post-video Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness), for a total of 6 regression tests.

Change in Immutability Beliefs uniquely and significantly explained 0.8% of the variance in change in Treatment Attitudes ( $R^2$  change = .008,  $F$  change (1, 323) = 10.42,  $p = .001$ ), with a standardized  $Beta$  of .093 ( $p = .001$ ). Experiencing a decrease in Immutability Beliefs was predictive of experiencing an increase in positive Treatment Attitudes. See Table 9 for regression statistical values. No other significant predictive relationships were observed.

Table 9  
*Summary of Stepwise Regression Analysis for Change in Immutability Beliefs' Ability to Predict Change in Treatment Attitudes (n = 331)*

Variable	Model 1			Model 2		
	$B$	$SE B$	$\beta$	$B$	$SE B$	$\beta$
Pre-video Treatment Attitudes	0.84	0.03	.82**	0.84	0.03	.81**
Gender	-0.63	0.25	-.07	-0.56	0.35	-.05
Knowing Someone with MI	0.02	0.33	.00	0.12	0.33	.01
History of Treatment	-0.16	0.40	-.01	-0.18	0.39	-.01
History of Treatment Avoidance	0.28	0.43	.02	0.34	0.42	.03
Pre-video Biological Etiology Beliefs	-0.55	0.25	-.07*	-0.48	0.24	-.06*
Pre-video Depression Symptoms	-0.07	0.45	-.01	-0.06	0.44	.00
Change in Immutability Beliefs				0.94	0.29	.09**
$R^2$		.736			.744	
$F$ for change in $R^2$		128.83**			10.42**	

Note: \* $p < .05$ . \*\* $p < .01$ .

**Additional exploration of interaction terms.** In order to explore possible interactions between change in Responsibility or Immutability Beliefs and the relevant

subject characteristics of Depression Symptoms and Biological Etiology Beliefs, additional hierarchical multiple regressions were performed similar to those described above. Interaction terms were created by calculating four new variables that represented the products of either pre-video Depression Symptoms or pre-video Biological Etiology Beliefs with either change in Responsibility Beliefs or change in Immutability Beliefs. Before creating interaction terms, each variable in the interaction was converted to centered scores with means of 0 to prevent problems with colinearity between the individual variables and their interaction term.

Batch one of each hierarchical regression consisted of the covariates used previously, with the addition of the individual components of each interaction being tested. Batch two consisted of the interaction term predictor variable in question. Separate regressions were run for all combinations of dependent variables (post-video Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness) and interaction terms (Responsibility Belief change X Depression Symptoms, Responsibility Belief change X Biological Etiology Beliefs, Immutability Belief change X Depression Symptoms, Immutability Belief change X Biological Etiology Beliefs), for a total of 12 hierarchical regressions.

The interaction between change in Immutability Beliefs and pre-video Depression Symptoms uniquely explained 0.3% of the variance in change in Treatment Attitudes ( $R^2$  change = .003,  $F$  change (1, 322) = 4.43,  $p$  = .036), with a standardized *Beta* of .060 ( $p$  = .036). See Table 10 for regression statistical values.

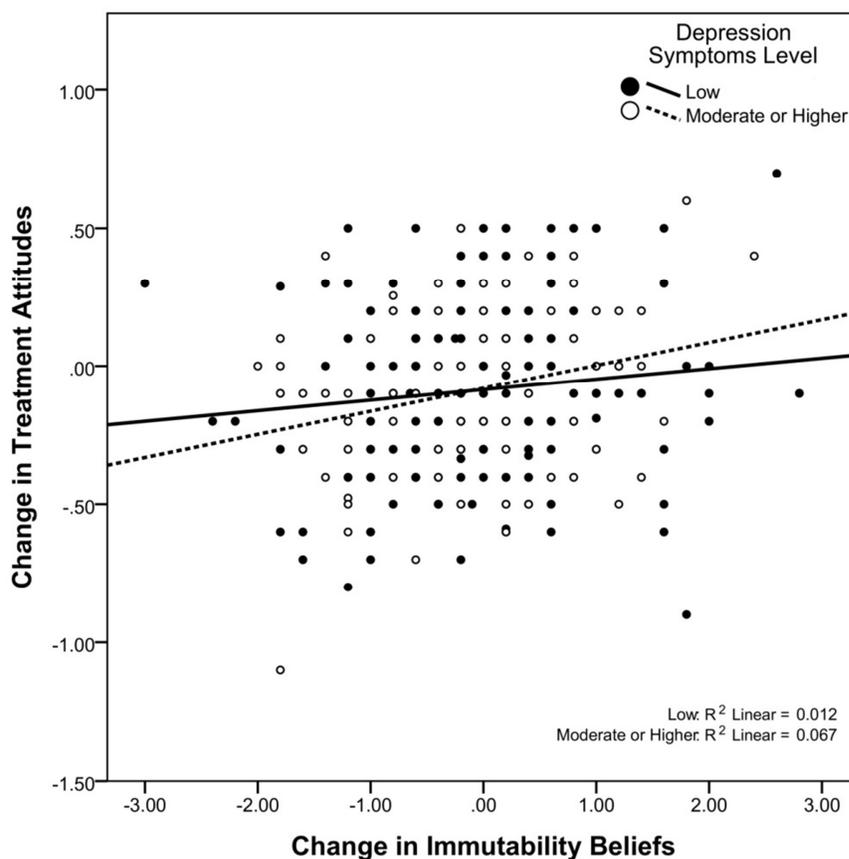
Table 10  
*Summary of Stepwise Regression Analysis for the Change in Immutability Beliefs X Pre-Video Depression Symptoms Interaction's Ability to Predict Change in Treatment Attitudes (n = 331)*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Pre-video Treatment Attitudes	0.84	0.03	.81**	0.84	0.03	.82**
Gender	-0.56	0.35	-.05	-0.54	0.35	-.05
Knowing Someone with MI	0.12	0.33	.01	0.08	0.33	.01
History of Treatment	-0.18	0.39	-.01	-0.15	0.39	-.01
History of Treatment Avoidance	0.34	0.42	.03	0.39	0.42	.03
Pre-video Biological Etiology Beliefs	-0.48	0.24	-.06*	-0.49	0.24	-.06*
Pre-video Depression Symptoms	-0.06	0.44	.00	-0.11	0.44	-.01
Change in Immutability Beliefs	0.94	0.29	.09**	0.88	0.29	.09**
Change in Immutability Beliefs X Pre-video Depression Symptoms				1.46	0.69	.06*
$R^2$		.744			.747	
$F$ for change in $R^2$		117.31**			4.43*	

Note: \* $p < .05$ . \*\* $p < .01$ .

In order to interpret this interaction, change in Immutability Beliefs and change in Treatment Attitudes were plotted on a scatter plot (see Figure 8), and the Depression Symptoms category (low vs. moderate and above) was used as a grouping variable. While decreasing directional change in Immutability Beliefs was associated with increasing directional change in positive Treatment Attitudes for all subjects, this association was stronger in magnitude for subjects with moderate or higher pre-video Depression Symptoms. In other words, decreasing change in Immutability Beliefs was associated

with greater increasing change in positive Treatment Attitudes for depressed subjects than for non-depressed subjects.



*Figure 8.* Interaction between change in Immutability Beliefs and pre-video Depression Symptoms in predicting change in Treatment Attitudes. A scatterplot with change in Immutability Beliefs on the x axis and change in Treatment Attitudes on the y axis is shown above, with separate regression lines included for subjects with low Depression Symptoms and subjects with elevated Depression Symptoms.

The interaction between change in Responsibility Beliefs and pre-video Depression Symptoms uniquely explained 1.0% of the variance in change in Treatment Willingness ( $R^2$  change = .010,  $F$  change (1, 322) = 6.69,  $p = .010$ ), with a standardized *Beta* of -.103 ( $p = .010$ ). See Table 11 for regression statistical values.

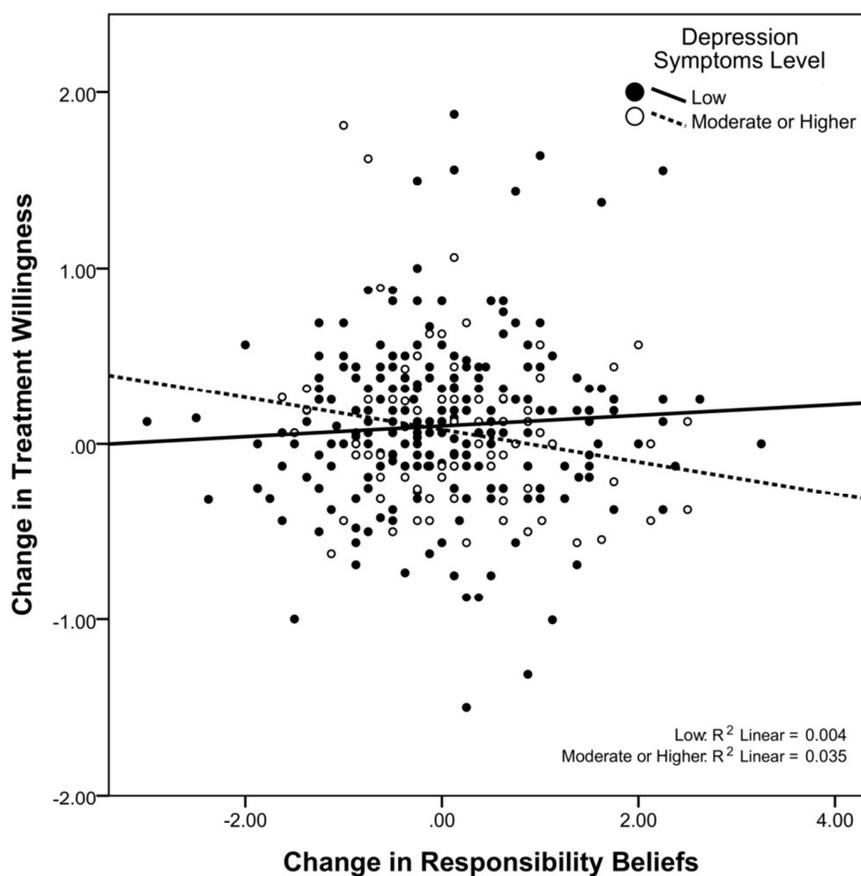
Table 11  
*Summary of Stepwise Regression Analysis for the Change in Responsibility Beliefs X Pre-Video Depression Symptoms Interaction's Ability to Predict Change in Treatment Willingness (n = 331)*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Pre-video Treatment Willingness	0.69	0.04	.67**	0.70	0.04	.68**
Gender	0.45	0.82	.02	0.45	0.81	.02
Knowing Someone with MI	1.19	0.76	.07	1.41	0.76	.08
History of Treatment	1.06	0.91	.05	1.07	0.90	.05
History of Treatment Avoidance	0.41	0.99	.02	0.50	0.98	.02
Pre-video Biological Etiology Beliefs	1.15	0.55	.09*	1.12	0.55	.08*
Pre-video Depression Symptoms	-1.20	1.04	-.05	-1.16	1.03	-.05
Change in Responsibility Beliefs	-0.14	0.49	-.01	-0.22	0.49	-.02
Change in Responsibility Beliefs X Pre-video Depression Symptoms				-3.27	1.26	-.10*
$R^2$		.478			.487	
<i>F</i> for change in $R^2$		38.82**			6.72*	

Note: \* $p < .05$ . \*\* $p < .01$ .

In order to interpret this interaction, change in Responsibility Beliefs and change in Treatment Willingness were plotted on a scatter plot (see Figure 9), and the pre-video Depression Severity category (low vs. moderate and above) was used as a grouping variable in the scatter plot. For subjects with low levels of Depression Symptoms, increasing directional change in Responsibility Beliefs was associated with increasing directional change in Treatment Willingness. For subjects with moderate and higher levels of pre-video Depression Symptoms, increasing directional change in

Responsibility Beliefs was associated with decreasing directional change in Treatment Willingness.



*Figure 9.* Interaction between change in Responsibility Beliefs and pre-video Depression Symptoms in predicting change in Treatment Willingness. A scatterplot with change in Responsibility Beliefs on the x axis and change in Treatment Willingness on the y axis is shown above, with separate regression lines included for subjects with low Depression Symptoms and subjects with elevated Depression Symptoms.

## Chapter 4 - Discussion

### Summary of Findings

Bivariate correlations between items predicted to be important in the newly proposed TSBM revealed some support for the model. Responsibility and Immutability Beliefs were not correlated, suggesting independent and unique belief structures. Responsibility and Immutability Beliefs, as well as a variable intended to measure label avoidance (Perceived Devaluation), were significantly correlated with some, and at times all, measures of treatment stigma (Treatment Seeking Stigma, Treatment Attitudes, Treatment Willingness).

The decrease immutability video led to a significant decrease in Immutability Beliefs, and there was a positive effect of the videos on Treatment Seeking Stigma scores in general. Responsibility PSAs did not lead to a significant change in Responsibility Beliefs. Furthermore, no PSAs led to a significant change in Perceived Devaluation, which was intended to measure label avoidance.

When data were collapsed across all groups, change in Immutability Beliefs was a significant predictor of change in Treatment Attitudes, with decreasing Immutability Beliefs predicting an increase in positive Treatment Attitudes. Additionally, this relationship was stronger for subjects experiencing elevated levels of pre-video Depression Symptoms. Finally, an interaction between change in Responsibility Beliefs and pre-video Depression Symptoms in predicting Treatment Willingness was found. For subjects with heightened pre-video depression, an increasing change in Responsibility Beliefs was predictive of a decreasing change in Treatment Willingness, while for non-

depressed subjects increasing change in Responsibility Beliefs was predictive of an increasing change in Treatment Willingness.

### **Revisions to the TSBM**

Correlational evidence mostly supported the structure of the newly proposed TSBM. As predicted, Immutability and Responsibility Beliefs were unique constructs and did not correlate, and both of them correlated significantly with two or more treatment stigma measures. Label avoidance, as measured by Perceived Devaluation scores, was also significantly correlated with Immutability and Responsibility Beliefs, as well as two of the three treatment stigma measures.

For further development of the TSBM, it may be important to create a unique label avoidance measure, rather than assuming perceived public devaluation adequately measures this construct. Before looking more closely at the label avoidance barrier of the TSBM, a measure of label avoidance should be created and tested that measures an individual's urge to escape becoming a target of public and self-stigma.

Responsibility beliefs were not nearly as malleable as initially predicted, and the TSBM's assumption that mental illness beliefs are easier to change than label avoidance may not be entirely accurate. Future attempts at creating more effective responsibility belief PSAs may help reveal whether responsibility beliefs in the TSBM are indeed difficult to change, or if the current study's responsibility PSA was ineffectively created.

Finally, it may be important in future elaborations of the TSBM to explain how the barriers interact with specific types of treatment stigma. As demonstrated in the current study, Responsibility and Immutability Beliefs had unique, and at times absent, relationships with stigma measures. It will be important to understand how and why

information about immutability and responsibility impacts each stigma measure, and how these stigma measures impact actual treatment seeking behaviors.

### **Evaluation of PSA Video Effects**

**Effects on mental illness beliefs.** Overall, the hypothesis that PSA videos would change their target beliefs in the desired direction was partially supported, with the decrease immutability video leading to a significant decrease in Immutability Beliefs. The educational videos used in the current study were unable to change Responsibility Beliefs. There are a number of possible reasons for this. A key difference between the current study and past studies that have demonstrated an ability to change beliefs related to responsibility and blame (Crisafulli et al., 2008; Lebowitz et al., 2014; Rusch et al., 2010) is the etiological model utilized. These past studies all evaluated the effects of biogenetic models on perceived responsibility, while the current study utilized a psychosocial model. It is possible that psychosocial causal explanations are not as reliable in changing responsibility beliefs. Crisafulli et al. (2008) evaluated both biogenetic and “sociocultural” causal explanations of anorexia nervosa, and found that the biogenetic explanations led to decreased blame, while the sociocultural explanations did not.

The responsibility videos created and used in the current study may not have been effectively targeting the construct of responsibility beliefs, despite initial pilot data suggesting that subjects were able to differentiate how much responsibility was attached to depression in each video. While the immutability videos were relatively direct (i.e. “this treatment works”), the responsibility videos targeted etiological factors that were predicted to be *associated* with beliefs of responsibility. This indirect connection between

video content and responsibility beliefs, as opposed to the immutability videos' direct connection, may have contributed to difficulties changing the underlying construct of responsibility beliefs. More direct claims, such as “people with depression are not responsible for their condition,” may have led to more reliable change in Responsibility Belief scores.

Another potential problem with the responsibility videos, particularly the decrease responsibility video, is its use of childhood abuse as a cause of depression thought to be correlated with decreased responsibility. Schomerus, Matschinger, and Angermeyer (2014) observed that a belief in childhood adversities as a cause of depression actually resulted in increased desire for social distance from people with depression. This suggests that decreasing responsibility beliefs through etiological information may be more complex than initially predicted, and that learning about certain causes of depression may result in increased stigma regardless of the cause's connection with decreased personal responsibility.

Responsibility beliefs may simply be difficult to change. The public may encounter depression symptoms in themselves and others (and associated thoughts of why those symptoms exist) more frequently than they encounter accounts of successful treatment for depression. If this is accurate, beliefs related to people's responsibility for depression (such as their role in the etiology of the depression and their role in “fixing” the depression) are rehearsed more than beliefs about treatment and its efficacy. This repeated activation of responsibility belief schemas may result in them being more engrained and resistant to change than immutability belief schemas. Less total rehearsal of immutability belief schemas may explain why they were susceptible to manipulation in

the current study. Frequently rehearsed beliefs may require more repetitions of relevant PSA exposure before they change.

While responsibility beliefs were resistant to change, the current study was able to change subjects' general immutability beliefs towards depression via the decrease in immutability PSA, and saw this effect through how a vignette character's depression was perceived. This may suggest that immutability beliefs are more malleable than responsibility beliefs in response to brief PSAs. Lebowitz et al. (2013) found evidence that immutability beliefs could successfully be changed, similar to the current study. Using a brief 6 minute video that educated on the changeability of biological factors related to depression, researchers observed a decrease in subjects' beliefs of prognostic pessimism and lengthy symptom duration (consistent with immutability beliefs) related to depression. Lebowitz et al. (2013) also found that subjects with heightened levels of depression were more susceptible to this change. While the current study did not observe an impact of depression on Immutability Belief change, there was an observed impact of depression on how effective changes in Immutability Beliefs were in predicting changes in Treatment Attitudes. This will be discussed in more detail below.

It is important to note that the control video did not lead to any change in Responsibility or Immutability Beliefs. This suggests that psychoeducation alone is not sufficient to decrease the treatment barriers predicted by the TSBM.

**Effects on treatment stigma.** The hypothesis that PSA videos would increase and decrease measures of treatment stigma (depending on each video's intended direction of change) was not supported. Evaluating the effects of PSA videos on Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness revealed relatively little in terms

of which educational approach is most effective. Treatment Seeking Stigma decreased relatively indiscriminately in response to the videos, while the other measures did not change in response to the videos.

While decreases in Treatment Seeking Stigma were present after the four manipulation videos, no changes in any measures were observed in the control video. This suggests that there is something important in discussing topics of responsibility and immutability, and that psychoeducation about depression alone is not sufficient to effectively decrease stigma. The control group used in the current study was limited in power due to its small size, so this conclusion should be interpreted with some hesitancy.

The uniformity of positive Treatment Seeking Stigma across video conditions may reflect the complex and subtle nature of active stigma change mechanisms. It also suggests that multiple active elements may exist that lead to positive stigma change. While a little bit of everything may result in stigma change, the current study is interested in identifying what is most manipulable, and which elements have an observable connection with decreases in treatment stigma. Some limited clarity to these questions was found in the regression results of the current study, discussed below.

### **Impact of Belief Change on Stigma**

The hypothesis that changes in Responsibility and Immutability Beliefs would predict changes in treatment stigma measures was partially supported. Change in Immutability Beliefs was a significant predictor of change in Treatment Attitudes, although the percentage of change accounted for was very small (0.8%). No other predictive relationships were found between change in mental illness beliefs and change in treatment stigma measures. The unique nature of this predictive relationship suggests

that it may be an active mechanism for stigma change. Additionally, Immutability Beliefs were uniquely malleable via a PSA video in the current study. This suggests that future campaigns could change immutability beliefs, and that this change will likely result in a change in treatment seeking attitudes.

The predictive relationship between change in Immutability Beliefs and change in Treatment Attitudes was amplified in subjects experiencing greater levels of current depression. This finding is similar to the phenomenon in Demyan and Anderson (2012), where an immutability PSA was found to be more effective in changing beliefs for people with elevated depression. Findings from the current study suggest that this heightened effectiveness in people with depression symptoms extends to effectiveness in changing attitudes towards treatment seeking.

One possible explanation for this interaction is the current finding that pre-video Depression Symptoms and Immutability Beliefs were significantly positively correlated. Subjects experiencing greater levels of depression tended to also have greater beliefs that depression was immutable. It may be that messages about immutability were particularly relevant and salient to these individuals, and therefore had a greater impact on subsequent changes in treatment seeking attitudes.

It is important to note that change in Immutability Beliefs accounted for a very small percentage of the total variance in change in Treatment Attitudes, despite this relationship being statistically significant. One possible reason for this small relationship magnitude being statistically significant is the current study's large sample size and the resulting large degree of power when all study conditions were collapsed together for the regression analyses.

Another possible reason for the small relationship magnitude is that subjects in the current study only experienced a single exposure to a brief 2-minute PSA video. Kaplan, Vogel, Gentile, and Wade (2012) identified a positive effect of multiple educational PSA exposures on changes in attitudes towards treatment seeking. Subjects in Kaplan et al.'s (2012) study who viewed a 7-minute anti-stigma video three times within one week showed significant increases in positive treatment seeking attitudes, which persisted at least three weeks after the last video exposure. Subjects who only viewed the video once showed temporary improvement in positive treatment seeking attitudes, but this improvement dissipated three weeks after the single exposure. Given these findings, it is possible that additional exposures to the decrease immutability video would lead to cumulatively greater Immutability Belief changes and an increase in the predictive relationship between Immutability Belief change and Treatment Attitude change.

When evaluating PSAs that could be delivered to a very large population, it is important to recognize that very small effects and relationships can lead to very large overall impacts at the population level. When small predictive relationships such as the one found in the current study are applied to hundreds of millions of people, a clinically significant number of individuals may emerge who benefit from exposure to a decrease immutability PSA. This number of individuals would likely go up with repeated exposures to the PSA.

Change in Responsibility Beliefs was not predictive of change in any of the treatment stigma measures. Further exploratory analyses of possible interaction terms did reveal that for depressed subjects, a decreasing direction of change in Responsibility Beliefs predicted increasing change in Treatment Willingness, while the opposite was true

for non-depressed subjects. This suggests that decreasing responsibility beliefs will decrease willingness to seek treatment for people without depression symptoms, but will increase willingness for people with depression symptoms. However, the current study was unable to change Responsibility Beliefs in any predictable or intended manner.

For an educational PSA to have utility, it cannot have opposite effects on different groups of people. Change in Immutability Beliefs predicted the same direction of change in Treatment Attitudes, regardless of depression symptoms. In the one regression where change in Responsibility Beliefs was found to predict Treatment Willingness, the direction of the relationship changed based on Depression Symptom levels. Because of this, beliefs about immutability may be a more reliable target for future PSAs than responsibility beliefs. Furthermore, the current study provides promising evidence that change in Immutability Beliefs predicts change in Treatment Attitudes with increasing strength as depression symptoms of individuals increase. This may make immutability PSAs uniquely successful at increasing treatment seeking for depression.

### **Evaluating Measures of Treatment Seeking Stigma, Treatment Attitudes, and Treatment Willingness**

While change in Immutability Beliefs was able to predict change in Treatment Attitudes, it was unable to predict change in Treatment Seeking Stigma or Treatment Willingness. Likewise, Treatment Seeking Stigma reduced across all video conditions, while no effects of PSA videos were observed on Treatment Attitudes or Treatment Willingness. It is not fully understood why such findings arose.

Differences in how Treatment Seeking Stigma and Treatment Attitude measures responded to the current study's manipulations may partially be accounted for by how

much each one is related to depression symptoms. Elhai et al. (2008) argued that it can become problematic if a stigma measure overlaps with mental health symptoms. In the case of depression, symptoms such as increased guilt, hopelessness, and pessimism may impact how self-stigma and treatment seeking attitude questions are answered, therefore decreasing the validity of the stigma measures. Several studies have found a relationship between depression symptoms and SSOSHS scores (Hammer & Vogel, 2010; Lienemann, Siegel, & Crano, 2013). The current study also found a correlation between depression symptoms and Treatment Seeking Stigma (measured via the SSOSHS), suggesting that overlap may exist. However, no relationship was found in the current study between Treatment Attitudes (measured via the ATSPPH) and depression, which is consistent with findings from a number of past studies (Elhai et al., 2008; Hammer & Vogel, 2010; Vogel, Wester, Wei, & Boysen, 2005; Wrigley, Jackson, Judd, & Komiti, 2005).

The apparent overlap between depression symptoms and Treatment Seeking Stigma, and the lack of such overlap with Treatment Attitudes, may account for some of the differences between these measures in the current study. The lack of a relationship between Treatment Attitudes and depression suggests that it may be a more valid outcome measure to use for assessing the impact of anti-stigma efforts.

While Treatment Willingness was not predictably impacted by a change in Immutability Beliefs, it is important to note that pre-video Immutability Beliefs were the only component of the TSBM to be significantly correlated with pre-video Treatment Willingness. It may be possible that with multiple exposures to the decrease immutability PSA, and greater predicted subsequent Immutability Belief change, Treatment

Willingness will be observably increased. Future studies evaluating the effect of multiple decrease immutability PSA exposures will help clarify this relationship, or lack thereof.

### **Biological Etiology Beliefs**

Past research has differed in observed effects of presenting depression as biological on stigma. Some studies have demonstrated that providing a biological causal explanation of depression to subjects has a negative impact on fear (Angermeyer et al., 2014; Speerforck et al., 2014) and desired social distance from people with depression (Schomerus et al., 2009, Speerforck et al., 2014). Other studies have found no negative impact on desired social distance (Lee et al., 2014).

The primary difference between these past studies and the current study's exploration of biological etiology beliefs is that the above studies looked at how subjects react when depression is presented to them as biological in origin, whereas the current study simply assessed for pre-video etiological beliefs and measured their relationships with other measures. The current study found that higher levels of Biological Etiology Beliefs were significantly related to lower Treatment Seeking Stigma, Immutability Beliefs, and Responsibility Beliefs, and higher levels of Treatment Willingness. Goldstein and Rosseli (2003) similarly looked at the association between pre-study biological etiology beliefs and other measures, and found these beliefs to be associated greater beliefs that people with depression are empathetic, caring, and easy to talk to.

It seems as if a core belief in a biological cause of depression is related to less overall stigma towards the disorder. However, when depression is explicitly presented as being biologically caused, this tends to increase certain stigma beliefs. One possibility is that general beliefs in a biological etiology of depression could be correlated with overall

mental health literacy, which has been argued to be related with lower levels of mental illness stigma (see Jorm, 2012). Additionally, the presence of etiological knowledge and affective reactions to observing mental illness being presented as biological may involve two separate processes that lead to very different stigma outcomes. Further research into this dynamic is needed to fully understand the processes at work.

### **Big Picture**

**A case for immutability beliefs.** Findings from the current study suggest that decreasing immutability beliefs may be a key active element in addressing treatment seeking stigma. Not only did decreases in immutability beliefs lead to increases in positive attitudes toward treatment, it was also possible to reliably and significantly manipulate this decrease in immutability beliefs via the decrease immutability video. No other elements evaluated had this degree of evidence for a causal relationship. This suggests that immutability beliefs could play a key role in future educational campaigns aimed at increasing treatment seeking attitudes, and could be utilized independently without addressing other aspects of mental illness and treatment stigma. Being able to focus on only one active element may lead to shorter and simpler PSAs that are still significantly effective at changing treatment seeking attitudes.

The current study demonstrated that a significant change in treatment seeking attitudes could be achieved with a single exposure to a 2 minute PSA. This is incredibly short compared to many past educational interventions. For example, some educational anti-stigma attempts have involved 40 minutes (Sharp et al., 2006), 90 minutes (Tanaka et al., 2003), 270 minutes (Esters et al., 1998), and 10 total hours (Perry et al., 2014) of total education. While providing enough education to ensure effective anti-stigma effects is

important, the current study's finding that 2 minutes led to measurable decreases in Immutability Beliefs and certain measures of stigma is promising evidence that brief educational PSAs can be efficacious with few exposures. Evidence from past literature also exists supporting the prediction that repeated exposures to the current study's decrease immutability PSA would increase its effectiveness (Kaplan et al., 2012).

Evidence from the current study supports the idea that educational PSAs can be effective without targeting every element of treatment stigma. A number of past anti-stigma efforts have focused on many possible anti-stigma elements at once, rather than narrowing in and evaluating single elements. For example, Sharp et al.'s (2006) anti-stigma education involved providing information on mental illness myths, normalizing mental illness, psychoeducation on disorders including prevalence, symptoms, and etiologies, types of therapies, effectiveness of therapies, and common mental health professionals. While a broad range of information may be helpful, it does not bring us closer to understanding what elements of the education are meaningfully related to increasing treatment seeking. Also, the amount of time needed to present this volume of information makes it impractical to deliver to a wide audience through many forms of media in a PSA format. The current study's findings that immutability beliefs are uniquely efficacious at changing treatment stigma suggest that new educational PSAs could focus exclusively on immutability beliefs, without necessarily losing the ability to decrease stigma.

Many benefits exist for a PSA that is short, requires few exposures, and exclusively targets one belief rather than many. A brief immutability belief PSA would be easy to modify into numerous modalities, including written, radio, TV, billboard, fliers,

and pamphlets. Having such a wide range of modalities for the PSA would not only increase the chances that a person would experience a single exposure to the PSA message, which the current study showed to be effective, but it would also increase the likelihood for multiple exposures over a period of time. As discussed above, multiple exposures are predicted to increase the effectiveness of the immutability belief PSA.

At its core, a PSA focused on decreasing immutability beliefs involves the message that depression is changeable, and that certain therapies are very effective at leading to this change. This simplicity means that an immutability PSA could easily be modified to target any number of mental health disorders other than depression. Because the core of the message is effective treatment, rather than specific psychoeducational information about the disorder, less time would be needed to rewrite the PSA for different target disorders.

Focusing on a short simple message could save anti-stigma campaigns money by decreasing the amount of development time and advertising time needed to create and circulate the PSA message. Reallocation of funds towards a longer stigma campaign, and more frequent presentations of shorter PSAs rather than less frequent presentations of longer PSAs, could increase the overall effectiveness of the campaign. Sartorius (2010) has proposed that campaigns will likely need to last well over a year if they hope to have meaningful and long-term effects. Having a cost effective PSA campaign will be important if keeping it alive for a prolonged period of time is necessary.

Findings from the current study could also be relevant for clinical work, after an individual has successfully made the decision to seek treatment. Therapists could utilize messages about the treatability of relevant mental illnesses early in therapy to possibly

reduce self-stigma, reduce drop-out, and increase motivation for change and participation in treatment. The ability for therapists to engage and keep individuals in therapy is crucial, given the finding that the modal length of therapy across individuals is one session (Gibbons et al., 2011). A large number of individuals drop out of therapy after only a few sessions. Messages such as “what you are struggling with is very treatable,” and “with treatment you will not have your symptoms forever” might be crucial in keeping clients engaged in the early stages of therapy.

**Proposed PSA for future campaigns.** The following is an example of a PSA that would be appropriate for the applications discussed above. It could be delivered in 30-45 seconds, and could be audio only, text only, or audio/visual:

“Clinical depression can be effectively treated with a form of therapy called cognitive behavioral therapy. This treatment involves weekly sessions with a Psychologist, for approximately 8 to 12 weeks. Depressive symptoms usually don’t improve right away, but they are usually effectively resolved by the end of the course of therapy. Many persons who complete cognitive behavioral therapy no longer meet criteria for a diagnosis of depression after treatment. Even individuals with severe depression have been shown to significantly benefit from cognitive behavioral therapy. Furthermore, this treatment has been shown to have long lasting effects that endure after treatment has ended. For example, this therapy has been found to be effective in preventing depression from recurring in the future.”

### **Future Research**

While the current study provides some novel evidence for active mechanisms in treatment seeking stigma change, many aspects of these mechanisms would benefit from future research. Examining the effects of repeated exposures to the decrease immutability PSA, as opposed to the single exposure used in the current study, would help reveal possible additive effects as seen in Kaplan et al. (2012). Future research comparing the decrease immutability PSA to other forms of stigma reduction methods would provide

information about the PSA's relative effectiveness. Evaluating the decrease immutability PSA's effectiveness when delivered in different modalities, such as written and audio forms, would aid in developing future anti-stigma campaigns.

Medium and long-term effects of the immutability PSA, and how repeated exposures impact these effects, should also be studied. Single exposures may lead to observable short term effects which dissipate quickly, while repeated exposures might lead to longer term changes in treatment stigma. Modifying how many times subjects are exposed to the PSA, and evaluating differences in long-term outcomes, may reveal optimum PSA exposure levels to use as goals in future stigma campaigns. As part of this long-term evaluation, the actual behavior of seeking treatment should be assessed. If a link could be drawn between exposure to the immutability PSA and future treatment seeking behaviors, the use of this PSA in campaigns would be greatly supported. There is also a more general need for future research to evaluate the connection between various forms of treatment stigma and actual treatment seeking behaviors. Much of the current research, including the current study, focuses attention on attitudes and beliefs, while the most important outcome measure of all is behavioral treatment seeking.

Revisions to the decrease responsibility PSA could be made and evaluated, in order to establish whether the current study's finding that responsibility beliefs were resistant to change was accurate, or due to an ineffective manipulation. Revisions could include making the decrease responsibility PSA more direct and less dependent on assumptions that certain etiologies will lead to certain beliefs about responsibility. It may also be important to avoid certain messages that could result in increased stigma, such as attributing depression to childhood hardships (Schomerus et al., 2014).

Finally, in the case that the above future studies continue to support the decrease in immutability PSA as an effective tool for increasing treatment seeking attitudes, it may become appropriate to organize, run, and evaluate a pilot public PSA campaign. Corrigan (2012) has argued that there is extremely limited research examining actual PSA campaign outcomes. Therefore, a pilot campaign that effectively measures impact on a target population would be greatly beneficial.

### **Limitations of Current Study**

A primary limitation of the current study was its inability to demonstrate clear between-group differences in Treatment Attitudes, despite the significant relationship between change in Immutability Beliefs and change in Treatment Attitudes demonstrated when all groups were collapsed. It is predicted that multiple exposures to the PSAs may address this, and lead to greater effects of belief change on stigma outcomes. It is also predicted that focusing exclusively on the decrease beliefs videos would allow for greater clarity when comparing between-group differences.

Imbalances in certain demographic groups, especially gender, are also a limitation. Past research has suggested differences in mental health stigma based on gender (e.g. Cox, 2014; Holzinger, Floris, Schomerus, Carta, & Angermeyer, 2012; Lale, Sklar, Wooldridge, & Sarkin, 2014). While gender differences were noted when examining correlations, the disproportion amount of females in the study may have made it difficult to detect gender interaction effects on belief and stigma changes.

There were several problems with group sample size in the current study that were attributed to experimenter error. The increase responsibility group contained an unexpectedly greater number of subjects than other groups, due to an unintentional

pattern of this group being assigned more frequently than others. There is no clear evidence that this difference in sample size negatively impacted the current study's findings. Additionally, due to a delay in assigning subjects to the control group, coupled with declining subject participation as an increasing percentage of the available subject pool had completed the current study, the control group was smaller than desired. It is therefore difficult to conclude that the lack of change in control group beliefs and treatment stigma measures are due to a true lack of treatment effect as opposed to type 2 error.

### **Conclusion**

Fewer than half of individuals who experience a mental health problem in their life will receive adequate treatment. A large barrier to treatment involves public and self-stigma. Many interventions have been shown to be effective at treating a large number of disorders, yet individuals continue to suffer from mental illness due to stigma towards seeking help.

In order to better understand stigma's impact on treatment seeking, and to identify effective ways of increasing treatment seeking attitudes, the current study evaluated the specific barriers of responsibility and immutability beliefs from the newly proposed Treatment Seeking Barriers Model.

Immutability beliefs were successfully decreased through the use of a brief public service announcement. Furthermore, change in immutability beliefs was predictive of change in treatment attitudes. This relationship increased in strength for subjects with heightened levels of current depression symptoms. The current study's PSAs were unable to change responsibility beliefs in subjects.

This evidence suggests immutability beliefs may be a key active mechanism in reducing treatment seeking stigma. It also suggests that targeted and brief PSAs may be effective tools in changing treatment stigma. Ultimately, findings from the current study represent progress towards learning how to predictably and efficiently increase people's chances of seeking treatment when they are experiencing mental health problems.

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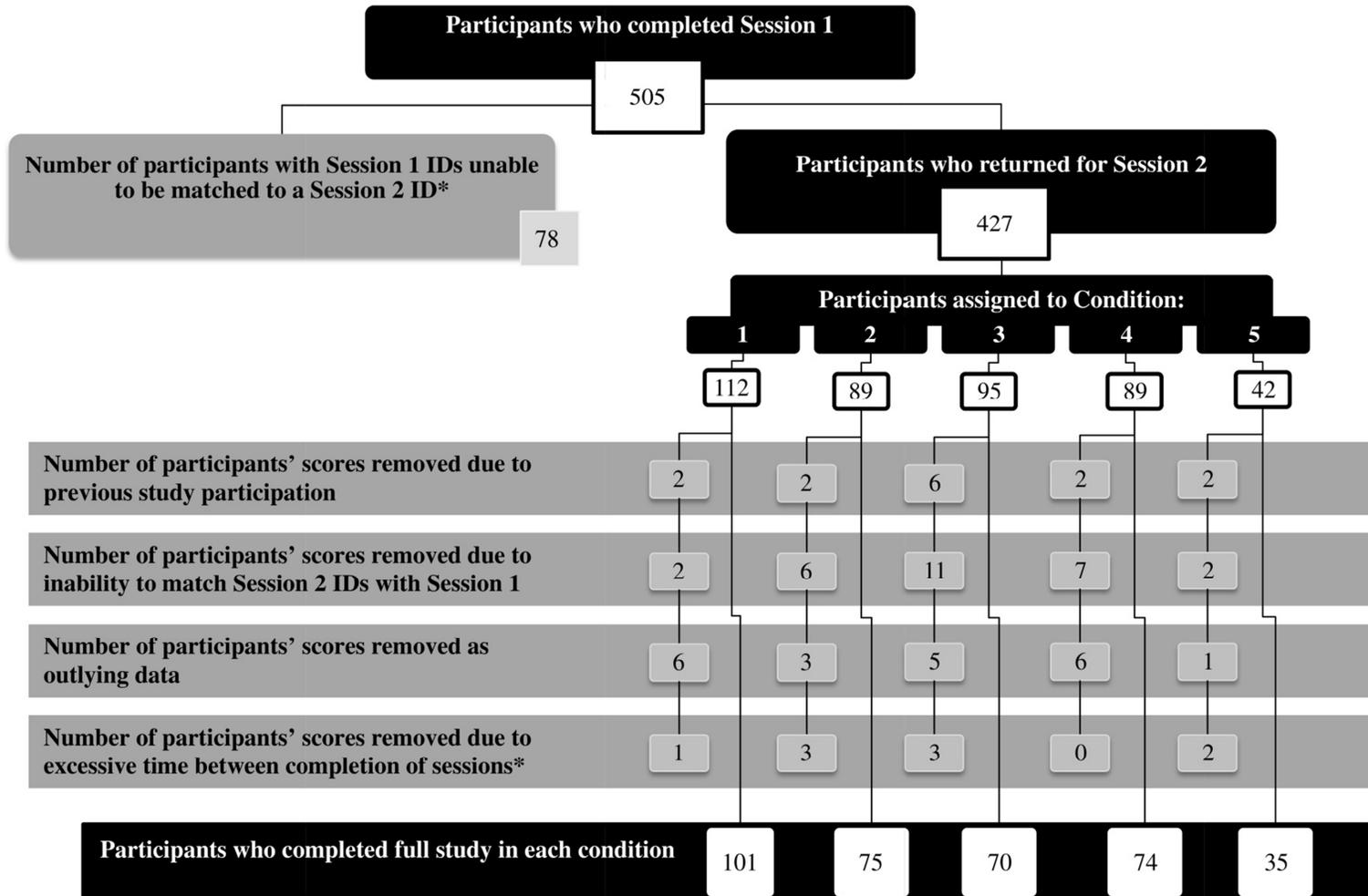
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Appendix A  
Group Assignment, Attrition, and Subject Removal Flowchart



\*Session 1 data for these subjects were still included in analyses only requiring Session 1 data.

## Appendix B

### Consent Form

You have been invited to participate in this research study. Before you agree to participate, it is important that you read and understand the following information. Participation is completely voluntary. Please ask questions about anything you do not understand before deciding whether or not to participate.

**PURPOSE:** The purpose of this research study is to evaluate various beliefs about depression. You will be one of approximately 300 participants in this research study.

**PROCEDURES:** You will be participating in 2 sessions, separated by a week. During Session 1, you will be creating a self-generated ID code, per instructions provided, and completing a number of online questionnaires. During Session 2, you will reenter your self-generated ID code, and will possibly view a brief video about depression. At the end of Session 2, you will complete a number of online questionnaires, and the study will be over. Each session is expected to last approximately 45 minutes

**RISKS:** Some of the information collected on the questionnaires could be considered sensitive. The researcher will make every effort to ensure that your information is kept confidential.

**BENEFITS:** There are no direct benefits to you for participating in this study. This research may benefit society by providing a better understanding of how individuals view depression.

**CONFIDENTIALITY:** All information you reveal in this study will be kept confidential. You will be asked to create a self-generated ID code during the first session. This ID code will only be used to link your data from Session 1 to Session 2. When the

results of the study are published, you will not be identified by name. Electronic data will be stored on a password protected computer for possible future research.

**COMPENSATION:** You will be given the equivalent of 30 minutes of extra credit time at the end of Session 1, and the equivalent of 60 minutes of extra credit time at the end of Session 2. Therefore, completion of both sessions will result in a total 90 minutes of extra credit time. Extra credit will be provided through a physical extra credit slip that can be delivered by you to the psychology class of your choice that is actively accepting research participation for extra credit.

**VOLUNTARY NATURE OF PARTICIPATION:** Participating in this study is completely voluntary and you may withdraw from the study and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. You may withdraw your data at any time by contacting Henry Boeh ([henry.boeh@mu.edu](mailto:henry.boeh@mu.edu)). Researchers will not record your name during the study, so your self-generated ID code will be required to locate and permanently delete your data from the data set.

**CONTACT INFORMATION:** If you have any questions about this research project, or in the event of a research-related injury, you can contact Henry Boeh by email of phone: [henry.boeh@mu.edu](mailto:henry.boeh@mu.edu) or (414)-288-0596. If you have questions or concerns about your rights as a research participant, you can contact Marquette University's Office of Research Compliance at (414) 288-7570 or [orc@mu.edu](mailto:orc@mu.edu).

**BY SELECTING THE “CONTINUE” BUTTON AT THE BOTTOM OF THE SCREEN I ACKNOWLEDGE THAT I HAVE READ THE ABOVE INFORMATION AND CONSENT TO PARTICIPATE IN THIS STUDY. I UNDERSTAND THAT I CAN DISCONTINUE AT ANY POINT.**

## Appendix C

### Debriefing Form and Debriefing PSA

The purpose of this study was to evaluate whether a causal link exists between beliefs about mental illness and an individual's attitudes and intentions in regards to seeking treatment for a mental illness. In other words, do beliefs such as "people with depression must have done something wrong" and "depression can't really go away with treatment" lead to more negative views about personally seeking treatment for depression?

Some participants may have been exposed to beliefs about depression and its treatment that are more negative than positive, and that do not fully represent professional opinions about the disorder. A final brief message will be shown on the next screen that presents more balanced information about depression, its causes, and treatments.

Your participation is greatly appreciated and will contribute to the scientific literature in a way that may provide important insight into how to increase treatment seeking in the greater community, so that less people with mental health problems go without effective treatment.

If you have any further questions or concerns or are interested in the findings of the study, please contact Henry Boeh at [henry.boeh@mu.edu](mailto:henry.boeh@mu.edu) or (414)-288-0596.

Thanks for participating. You may now proceed to the following page. After reading that page, press the "DONE" button and ask to receive your extra credit.

## Debriefing PSA

A number of factors have been identified that can cause depression. An individual's upbringing, including how they were treated by their parents and how an individual was taught to see the world, can lead to depression. Children who experience neglect from their caretakers are at a higher risk for depression. The loss of a parent during childhood is related to future depression. Experiencing a traumatic event, abuse, or chronic stressors, at any point in life, has also been found to increase risk for this disorder. Other large factors that can lead to depression in some individuals are the death of a loved one, suffering from chronic pain or a chronic health condition, or losing a sense of independence.

Depression can be effectively treated with a form of therapy called cognitive behavioral therapy. This treatment involves weekly sessions with a Psychologist, for approximately 8 to 12 weeks. Depressive symptoms usually don't improve right away, but are often effectively treated within the entire course of therapy. This treatment has been found to be effective both for treating depression, and for preventing depression from recurring in the future. Many people who complete cognitive behavioral therapy no longer meet criteria for a diagnosis of depression after treatment. Even individuals with severe depression have been shown to significantly benefit from cognitive behavioral therapy. Furthermore, this treatment has been shown to have long lasting effects that help decrease depression, even after treatment has ended.

## Appendix D

## Measures

## Demographics Questionnaire

1. What is your gender?
  - a. Male
  - b. Female
  
2. What is your age?
  
3. Ethnicity (Please select all that apply):
  - a. White/Caucasian
  - b. Hispanic/Latin-American
  - c. Black/African-American
  - d. Native American/American Indian
  - e. Asian-American/Pacific Islander
  - f. Other
  
4. What is your year in school?
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
  - e. Non-degree or continuing studies

5. Has someone close to you (close friend, relative, etc...) ever had a serious mental health problem?
  - a. No
  - b. Not sure
  - c. Yes
  
6. Are you currently receiving or have you ever sought professional mental health treatment?
  - a. Yes, within the last year
  - b. Yes, prior to last year
  - c. No, Never
  
7. How satisfied were you with the treatment you received?
  - a. Very satisfied
  - b. Somewhat satisfied
  - c. Not at all satisfied
  
8. Have you ever believed that you had a psychological problem, but decided not to seek professional mental health treatment?
  - a. Yes
  - b. No
  
9. If yes, what was/were your reason(s) for not seeking treatment?

Responsibility and Immutability Belief Inventory (RIBI), with the Anger, Pity, Help, Dangerousness, Fear, and Avoidance Scales from the Attribution Questionnaire 27-item (AQ-27)

**Please read the following paragraph:**

**Harry is a 30 year-old single man with depression. Sometimes he gets very down, becomes upset, and finds it difficult to work and interact with others. He lives alone in an apartment and works as a clerk at a large law firm. He has been hospitalized in the past because of his illness.**

**Instructions:**

**Now answer each of the following questions about Harry, using the scales provided.**

**Indicate the number of the best answer to each question.**

1. How much do you believe that it is Harry's own fault that he has his present condition?

**1      2      3      4      5      6      7      8      9**

Not at all

Completely

2. How much do you believe there are effective treatments that would allow Harry to return to a normal and productive life?

**1      2      3      4      5      6      7      8      9**

Not at all

Completely

3. I would feel aggravated by Harry.

**1      2      3      4      5      6      7      8      9**

Not at all

Very much

4. I would feel unsafe around Harry.

1 2 3 4 5 6 7 8 9

No, not at all

Yes, Very much

5. I would feel pity for Harry.

1 2 3 4 5 6 7 8 9

None at all

Very much

6. How responsible do you think Harry is for his present condition?

1 2 3 4 5 6 7 8 9

Not at all

Completely

7. How much do you think can be done to control the symptoms of Harry's mental illness?

1 2 3 4 5 6 7 8 9

Nothing

A lot

8. Harry would terrify me.

1 2 3 4 5 6 7 8 9

Not at all

Very much

9. I would be willing to talk to Harry about his problems.

1 2 3 4 5 6 7 8 9

Not at all

Very much

10. How much do you think Harry is choosing to stay in his present condition?

1 2 3 4 5 6 7 8 9

Not at all

Completely

11. Once someone develops a mental illness like Harry's, what are the chances of them being able to fully recover from it?

**1    2    3    4    5    6    7    8    9**

No chance

100% chance

12. How angry would you feel at Harry?

**1    2    3    4    5    6    7    8    9**

Not at all

Very much

13. If I were an employer, I would interview Harry for a job.

**1    2    3    4    5    6    7    8    9**

Not likely

Very likely

14. How much sympathy would you feel for Harry?

**1    2    3    4    5    6    7    8    9**

None at all

Very much

15. How much do you think Harry could have done to prevent his condition?

**1    2    3    4    5    6    7    8    9**

Nothing

A whole lot

16. How dangerous would you feel Harry is?

**1    2    3    4    5    6    7    8    9**

Not at all

Very much

17. How likely is it that you would help Harry?

**1    2    3    4    5    6    7    8    9**

Definitely would not help

Definitely would help

18. How scared of Harry would you feel?

1 2 3 4 5 6 7 8 9

Not at all

Very much

19. At some level, I think Harry wants to have his current condition.

1 2 3 4 5 6 7 8 9

Completely disagree

Completely Agree

20. I would share a car pool with Harry every day.

1 2 3 4 5 6 7 8 9

Not likely

Very likely

21. How irritated would you feel by Harry?

1 2 3 4 5 6 7 8 9

Not at all

Very Much

22. How much choice do you think is involved in Harry having his condition?

1 2 3 4 5 6 7 8 9

No choice

Complete choice

23. How much do you believe that Harry's mental illness could be "cured," like many physical illnesses can be?

1 2 3 4 5 6 7 8 9

Not at all

Completely

24. How certain would you feel that you would help Harry?

1 2 3 4 5 6 7 8 9

Not at all certain

Absolutely certain

25. How much concern would you feel for Harry?

1 2 3 4 5 6 7 8 9

None at all

Very much

26. How much do you believe that Harry just isn't choosing to think like most people think?

1 2 3 4 5 6 7 8 9

Not at all

Completely

27. I would feel threatened by Harry.

1 2 3 4 5 6 7 8 9

No, not at all

Yes, very much

28. How frightened of Harry would you feel?

1 2 3 4 5 6 7 8 9

Not at all

Very much

29. How effective do you think mental health professionals have become at treating mental illnesses like Harry's?

1 2 3 4 5 6 7 8 9

Not at all effective

Completely effective

30. Harry must have done something bad or wrong to have the condition he has now.

1 2 3 4 5 6 7 8 9

Completely disagree

Completely agree

31. If I were a landlord, I probably would rent an apartment to Harry.

1 2 3 4 5 6 7 8 9

Not likely

Very likely

## Attitudes Toward Seeking Professional Psychological

## Help Scale, Short Form (ATSPPH-SF)

**To what extent do you agree or disagree with the statements below:**

	Disagree	Partly Disagree	Partly Agree	Agree
1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	1	2	3	4
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.	1	2	3	4
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.	1	2	3	4
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears <i>without</i> resorting to professional help.	1	2	3	4
5. I would want to get psychological help if I were worried or upset for a long period of time.	1	2	3	4
6. I might want to have psychological counseling in the future.	1	2	3	4
7. A person with an emotional problem is not likely to solve it alone; he or she <i>is</i> likely to solve it with professional help.	1	2	3	4
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.	1	2	3	4
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.	1	2	3	4
10. Personal and emotional troubles, like many things, tend to work out by themselves.	1	2	3	4

### Intentions to Seek Counseling Inventory (ISCI)

Below is a list of issues people commonly bring to counseling. How likely would you be to seek counseling if you were experiencing these problems? Please choose the corresponding answer.

	Very Unlikely	Unlikely	Likely	Very Likely
1. Weight control	1	2	3	4
2. Excessive alcohol use	1	2	3	4
3. Relationship differences	1	2	3	4
4. Concerns about sexuality	1	2	3	4
5. Depression	1	2	3	4
6. Conflict with parents	1	2	3	4
7. Speech anxiety	1	2	3	4
8. Difficulties dating	1	2	3	4
9. Choosing a major	1	2	3	4
10. Difficulty in sleeping	1	2	3	4
11. Drug problems	1	2	3	4
12. Inferiority feelings	1	2	3	4
13. Test anxiety	1	2	3	4
14. Difficulty with friends	1	2	3	4
15. Academic work procrastination	1	2	3	4
16. Self-understanding	1	2	3	4
17. Loneliness	1	2	3	4

### Perceived Devaluation-Discrimination Scale

**Please indicate the extent to which you agree or disagree with the statements listed**

**below:**

	Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree
1. Most people would willingly accept someone with depression as a close friend.	1	2	3	4	5	6
2. Most people believe that a person who has depression is just as intelligent as the average person.	1	2	3	4	5	6
3. Most people believe that someone with depression is just as trustworthy as the average citizen.	1	2	3	4	5	6
4. Most people would accept someone who has fully recovered from depression as a teacher of young children in a public school.	1	2	3	4	5	6
5. Most people feel that getting therapy is a sign of personal failure.	1	2	3	4	5	6
6. Most people would not hire someone with a history of depression to take care of their children, even if he or she had been well for some time.	1	2	3	4	5	6
7. Most people think less of a person who has depression.	1	2	3	4	5	6
8. Most employers will hire a person with depression if he or she is qualified for the job.	1	2	3	4	5	6
9. Most employers will pass over the application of someone with depression in favor of another applicant.	1	2	3	4	5	6
10. Most people in my community would treat someone with depression just as they would treat anyone.	1	2	3	4	5	6
11. Most young women would be reluctant to date a man who has a history of depression.	1	2	3	4	5	6
12. Once they know a person has depression, most people will take his or her opinion less seriously.	1	2	3	4	5	6

## Self-Stigma of Seeking Help Scale (SSOSH)

**Instructions: People at times find that they face problems that they consider seeking help for. 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.**

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

## Etiology of Depression Scale

Please indicate the extent to which you believe the following factors are a cause of depression:

	Definitely not a cause						Definitely a cause
1. Chemical/hormone imbalance	1	2	3	4	5	6	7
2. Lack of will power	1	2	3	4	5	6	7
3. General stress	1	2	3	4	5	6	7
4. Melancholic personality	1	2	3	4	5	6	7
5. Genetic predisposition	1	2	3	4	5	6	7
6. Poor cognitive outlook	1	2	3	4	5	6	7
7. Lack of social support	1	2	3	4	5	6	7
8. Negative life event(s)	1	2	3	4	5	6	7
9. Biological changes	1	2	3	4	5	6	7
10. Helplessness/hopelessness	1	2	3	4	5	6	7
11. Expecting too much	1	2	3	4	5	6	7

Depression Scale from the Depression Anxiety  
and Stress Scale 21 Item Version (DASS-21)

**Please read each statement and choose a number that indicates how much the statement applied to you over the past week. There are no right or wrong answers.**

**Please use the following rating scale:**

**0: Did not apply to me at all**

**1: Applied to me to some degree, or some of the time**

**2: Applied to me to a considerable degree, or a good part of time**

**3: Applied to me very much, or most of the time**

1. I couldn't seem to experience any positive feeling at all	1	2	3	4
2. I found it difficult to work up the initiative to do things	1	2	3	4
3. I felt that I had nothing to look forward to	1	2	3	4
4. I felt down-hearted and blue	1	2	3	4
5. I was unable to become enthusiastic about anything	1	2	3	4
6. I felt I wasn't worth much as a person	1	2	3	4
7. I felt that life was meaningless	1	2	3	4

## Appendix E

## Factor Loadings of Responsibility and Immutability Items

Item	Component	
	Responsibility	Immutability
How much choice do you think is involved in Harry having his condition?	<b>.855</b>	.021
How much do you believe that it is Harry's own fault that he has his present condition?	<b>.794</b>	-.059
How much do you think Harry could have done to prevent his condition?	<b>.783</b>	.150
How responsible do you think Harry is for his present condition?	<b>.771</b>	.019
How much do you think Harry is choosing to stay in his present condition?	<b>.712</b>	.059
Harry must have done something bad or wrong to have the condition he has now.	<b>.682</b>	-.107
At some level, I think Harry wants to have his current condition.	<b>.633</b>	-.085
How much do you believe that Harry just isn't choosing to think like most people think?	<b>.451</b>	-.005
How much do you believe there are effective treatments that would allow Harry to return to a normal and productive life?	-.058	<b>.778</b>
How much do you think can be done to control the symptoms of Harry's mental illness?	.005	<b>.759</b>
How effective do you think mental health professionals have become at treating mental illnesses like Harry's?	-.039	<b>.757</b>
How much do you believe that Harry's mental illness could be "cured," like many physical illnesses can be?	.188	<b>.687</b>
Once someone develops a mental illness like Harry's, what are the chances of them being able to fully recover from it?	-.116	<b>.662</b>

*Note.* Results of an exploratory factor analysis with oblimin rotation of pre-video RIBI items are shown above. A factor inclusion criterion of eigenvalue >1 was used, and a 2 factor solution was found, matching the theoretical structure developed during the creation of the RIBI.