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THE EFFECT OF MERITOCRATIC WORLDVIEWS ON MENTAL ILLNESS STIGMA

by

Andrew W. Newsom, M.S.

A Dissertation submitted to the Faculty of the Graduate School,
Marquette University,
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy

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ABSTRACT
THE EFFECT OF MERITOCRATIC WORLDVIEWS ON MENTAL ILLNESS STIGMA

Andrew W. Newsom, M.S.

Marquette University, 2014

Mental illness stigma is an ongoing barrier to the treatment of individuals experiencing psychiatric distress. Many individuals who need mental health services avoid treatment due to fear and shame. Understanding the determinants of mental illness stigma is an important step toward increasing treatment seeking and effectiveness. One meritocratic worldview (The Protestant Work Ethic or the belief that hard work, determination, and responsibility lead to positive outcomes) has been consistently shown to be related to mental illness stigma. The present study examines the connection between the Protestant Work Ethic (PWE) and attitudes toward mental illness. A sample of Marquette University students (N = 272) was split into High PWE (n = 139) and Low PWE (n = 133) groups. Participants in the High PWE group were primed with a political speech that emphasized PWE values while participants in the Low PWE group were primed with a similar speech that deemphasized PWE values. It was hypothesized that individuals in the High PWE group would hold more negative explicit (conscious) and implicit (unconscious) attitudes toward the mentally ill. Additionally, it was expected that level of contact with individuals with mental illness would be inversely related to these negative attitudes. Findings indicated that there were no differences between the High PWE and Low PWE conditions, likely indicating that the experimental manipulation was unsuccessful. Post-hoc analyses were conducted and revealed that PWE scores were predictive of explicit, but not implicit, stigma towards mental illness. Level of contact with mental illness was negatively related to explicit stereotypes. Implications, limitations, and future directions are discussed.

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The Effect of Meritocratic Worldviews on Mental Illness Stigma

In the United States there is a large discrepancy between the number of individuals who need mental health services and the number of individuals who pursue those services. In addition, many individuals who seek mental health services do not adhere to prescribed treatment (Corrigan, 1998). One consistently recognized factor in treatment seeking and treatment adherence is mental illness stigma (Corrigan, 1998; Corrigan, 2004a; Rusch, Angermeyer, & Corrigan, 2005). Much research has focused on identifying the components of mental illness stigma as well as factors that lead to stigmatic beliefs about the mentally ill. An individual's worldview is one important factor in stigma toward the mentally ill. Worldviews that include meritocratic beliefs, such as the belief in a just world (i.e., "people deserve what they get"), seem to be particularly associated with stigma. Continued investigation into the connection between, and the processes underlying, meritocratic worldviews and mental illness stigma may be important toward the goal of creating, and refining, interventions aimed at the reduction of stigma toward mental illness.

This document comprehensively explores the relationship between a particular meritocratic worldview, the Protestant Work Ethic, and mental illness stigma. A review of mental illness stigma and its effects, meritocratic worldviews, and methods to measure stigma is presented first. Next, a study that sought to manipulate Protestant Work Ethic and observe changes in stigma toward mental illness is described. Finally, the findings, implications, and limitations of the study are discussed.

Mental Illness Stigma

Stigma is defined as the relationship between an attribute and a stereotype that can manifest as negative social attitudes and discriminatory behaviors toward a group of individuals based on physical or behavioral cues (Dalky, 2012; Goffman, 1963; Link, Yang, Phelan, & Collins, 2004). Stigma is generally conceptualized by one of two methods.

Conceptualizing Mental Illness Stigma. Dalky (2012) reviewed the two major methods of conceptualizing mental illness stigma. The first is the model of stigma components as proposed by Link and Phelan (2001). This model expands on Goffman's (1963) seminal work on, and definition of, stigma. Link and Phelan (2001) describe stigma simply as the convergence of four components within an environment in which the components are allowed to exist and develop. These four components are labeling, stereotyping, separation, and status loss/discrimination (Link & Phelan, 2001).

The process of labeling begins when individual and group differences are observed. The differing attributes are then assigned a label which, when applied to a person or a group, is seen as fixed and unchanging (Link & Phelan, 2001). Additionally, labels are often the result of oversimplification and generalization. The establishment and salience of labels is dependent on the social environment, meaning that labels vary greatly due to time and place (Link & Phelan, 2001). For example, salient labels were very different in 19th century North America than modern European labels (e.g., pale skin being a desirable trait in 19th century North America).

Stereotyping occurs when labels are associated with unwanted characteristics (Link & Phelan, 2001). For instance, for many persons, mental illness is associated with

dangerousness (Schumacher, Corrigan, & Dejong, 2003). Therefore, individuals with the label "mentally ill" are frequently assumed to be more dangerous than individuals without that label (Schumacher et al., 2003). Stereotyping may also become an unconscious, automatic process (Gaertner & McLaughlin, 1983).

Separation is the process by which groups of people are placed into categories based on stereotyped labels. The result of separation is the creation of outgroups and the sense of "us" versus "them" (Link & Phelan, 2001). Within the realm of mental illness, this may be reflected by the description of individuals *as* a mental health diagnosis rather than as *afflicted by* the diagnosis (e.g., "a schizophrenic" rather than "an individual with schizophrenia").

Finally, stereotyped individuals are subject to status loss and discrimination (Link & Phelan, 2001). In this component of stigma, groups that have been stereotyped are reduced in the social hierarchy. Additionally stereotyped individuals and groups are the targets of discriminatory behavior. This discrimination occurs both on the individual and the structural level (Link & Phelan, 2001).

The other major stigma conceptualization reviewed by Dalky (2012) was developed by Corrigan. Instead of a convergence of components, as proposed by Link and Phelan (2001), Corrigan (2004a) described mental illness stigma as a social cognitive process. This process includes cues, stereotypes, prejudice, and discrimination.

The stigma process begins with *cues*. There are four cues that are typically recognized by the public: psychiatric symptoms, social skills deficits, physical appearance, and labels. Symptoms of severe mental illness that are readily apparent (e.g., bizarre behavior in public) cue the process of stigmatization. Socially unacceptable

interpersonal interactions and poor physical appearance due to mental illness may also lead to stigmatizing attitudes. For instance, mental illness is often attributed to individuals who are homeless and unkempt. Labels (e.g., seeing an individual leave a mental health clinic or hearing that a person is "crazy") are a fourth type of cue that begins the stigmatizing process.

From cues, *stereotypes*, or belief structures centered on a targeted group of individuals, are activated. *Prejudiced* individuals believe negative stereotypes, which lead to negative emotional reactions. These, in turn, may result in *discriminatory* behavior (negative action towards stigmatized groups) which often includes avoidance (Corrigan, 2004a). Discrimination through avoidance may be particularly salient with regard to mental illness stigma. The effects of mental illness stigma, and related behavior, have a profound impact on individuals with psychiatric difficulties.

Effects of Mental Illness Stigma. The reaction of society to individuals with severe mental illness may be as debilitating as the symptoms of the illness itself (Corrigan, 1998). Stigma can negatively affect individuals with mental illness in multiple domains.

Individuals who face mental illness discrimination can be denied opportunities that are essential for meeting goals in life. This can include difficulties in finding suitable housing as well as gainful employment (Corrigan, Edwards, Green, Diwan, & Penn, 2001). Additionally, stigma can affect the criminal justice system in how police officers and others without mental health training respond to psychiatric crises (Corrigan, 2004a; McFarland, Faulkner, Bloom, Hallaux, & Bray, 1989). Individuals with mental illness are

also less likely to receive insurance benefits than those without a mental health diagnosis (Desai, Rosenheck, Druss, & Perlin, 2002).

Individuals with mental illness often choose to hide their outgroup membership in order to avoid being labeled by society. This label avoidance is potentially the most salient way in which stigma reduces care seeking (Corrigan, 2004a), either through treatment avoidance or nonadherence (Sirey et al., 2001). Additionally, stigma endorsed by individuals who are at risk for psychiatric disorder may be prevent those individuals from eventually seeking mental health treatment (Leaf, Tischler, & Holzer, 1987).

Individuals with severe mental illness experience more stigmatization than individuals with physical illness, even when chronicity and severity are considered (Corrigan, 1998). Severe mental illness has traditionally been viewed by the public as more related to drug addiction, prostitution, and criminality than is the case with physical illness (Albrecht, Walker, & Levy, 1982; Skinner, Berry, & Griffith, 1995). The continued misrepresentation of individuals with severe mental illness in the media acts to confirm existing stigmatic beliefs, leading to more discriminatory behavior (Corrigan, 1998; Nairn, 2007). There are several factors that may determine the nature and intensity of mental illness stigma.

Determinants of Mental Illness Stigma. A number of determinants of mental illness stigma have been identified in the scientific literature.

Degree of contact with and knowledge of mental illness may determine the amount of stigma that is endorsed. Public stigma toward mental illness can be reduced by contact with the mentally ill (Corrigan & Penn, 1999), particularly in instances when contact disconfirms stereotypes (Kunda & Oleson, 1997). Contact may be effective in

reducing stigma even when contact is only mildly different than expected by stereotype (Corrigan, Faber, Rashid, Leary, 1999). Congruently, a person with relatively little experience with mental illness is more likely to endorse stereotypes to a greater degree. Familiarity with mental illness has been shown to be negatively related to authoritarian views toward the mentally ill (i.e., the belief that individuals with mental illness are unable to practice self-care and must be cared for by society; Corrigan et al., 2001).

Knowledge of the symptoms and effects of mental illness may also determine mental illness stigma. Didactic interventions highlighting false beliefs about stereotyped groups have been effective in reducing stigma (Corrigan et al., 1999). Facilitated discussions and simulations are also useful toward discrediting false beliefs. In addition to reducing stereotypes, education programs have been shown to lead to more positive views toward mental illness (Corrigan et al., 1999). Thus, factual knowledge of mental illness may be a protective factor against stigmatizing beliefs about the mentally ill.

An individual's personal psychopathology also affects one's view of mental illness, on both the public stigma (the broad endorsement of stereotypes about a stigmatized group) and self-stigma (the internalized application of stereotypes about a stigmatized group of which an individual is a member) levels. For example, individuals without a mental health diagnosis may hold higher levels of guilt-related implicit mental illness stigma than individuals with a mental health diagnosis (Rusch, Todd, Bodenhausen, & Corrigan, 2010b). The self-stigma of those who have been labeled as mentally ill often leads to personal attributions of incompetence which, in turn, may lead to label-avoiding and self-handicapping behavior such as avoidance of psychiatric services or poor treatment adherence (Corrigan, 2004a).

Causal attributions for mental illness also determine stigma. Specifically, the greater the degree that one attributes genetics as the basis for mental illness, the more stigma that individual is likely to endorse (Phelan, Link, Stueve, Pescosolido, 2000; Rusch et al., 2010b). This is directly related to the perceived controllability and dangerousness of mental illness. When individuals see mental illness as a stable trait, they generally assign less responsibility to the mentally ill for their illness. However, more social distance and avoidance behavior are typically endorsed when mental illness is perceived to be unchanging. Biologically oriented causal attributions lead to more perceived dangerousness, leading to even greater stigma and further social distance (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Stuber, Rocha, Christian, & Link, 2014).

Finally, worldview affects the degree to which one endorses mental illness stigma (Rusch, Todd, Bodenhausen, & Corrigan, 2010a). Specifically, meritocratic views of the world are positively related to stigmatic attitudes toward individuals with mental illness.

Summary. Stigma is the relationship between an attribute and a stereotype (Goffman, 1963). Mental illness stigma can be seen as a convergence of factors (labeling, stereotyping, separation, and status loss/discrimination; Link & Phelan, 2001) or as a social-cognitive process (involving cues, stereotypes, prejudice, and discrimination; Corrigan, 2004a). Mental illness stigma has a comprehensively negative effect on individuals with psychiatric difficulties that may be as debilitating as the symptoms of mental illness. Stigma toward the mentally ill may be determined by a number of factors, including one's degree of contact with and knowledge of mental illness, personal psychopathology, causal attributions for mental illness, perception of the dangerousness

of the mentally ill, and worldview. A specific style of viewing the world that has been shown to be related to mental illness stigma are the meritocratic worldviews. These are discussed next.

Meritocratic Worldviews

The worldviews held by both members of the general public and those held by individuals with mental illness provide insight into the process and persistence of mental illness stigma (Norman, Sorrentino, Windell, & Manchanda, 2008; Stier & Henshaw, 2007; Yang et al., 2007). *Worldviews*, or belief systems that hold individuals as having personal responsibility for events and outcomes in their lives, have been consistently identified as correlates of stigma (Rusch et al., 2010a). Perhaps the most well known meritocratic worldview is the *just world hypothesis*, or the belief that people deserve, or earn, their outcomes in life (Lerner & Simmons, 1966). As such, negative circumstances may be seen to reflect a weakness of character or ability (Rusch et al., 2010a). Indeed, individuals who identify with meritocratic beliefs often attribute the onset of mental illness as being the fault of the afflicted individual (Crandall & Moriarty, 1995).

One likely contributor to the prevalence of meritocratic views is the American interpretation of Christianity, in which there is a particularly strong focus on sinful behavior and its consequences. This emphasis on sin may have helped to perpetuate the frequent assignment of blame to individuals for their mental illness (Dain, 1992). As such, meritocratic worldviews with a basis in Christian belief may be of particular interest when mental illness stigma is considered within the culture of the United States. Thus, another well-known meritocratic worldview, the *Protestant Work Ethic*, bears further exploration. It is discussed here.

The Protestant Work Ethic (PWE) The Protestant Work Ethic (PWE) worldview places value on hard work, self-reliance, and individual problem solving. Success is seen as a result of resolve and personal application while unity, acceptance, and help seeking are deemphasized.

The PWE worldview has been shown to be related to higher levels of psychiatric distress. Quinn and Crocker (1999) administered the Protestant Ethic Scale (a brief questionnaire assessing PWE orientation), the Rosenberg Self-Esteem Scale, and measures of depression, anxiety, and Body Mass Index to 257 college women. Findings indicated that high identification with PWE values was related to substantially lower levels of psychological well being for individuals who were classified as "very overweight."

Other research has suggested that a reduction in PWE values may result in a decline of mental illness stigma (Norman et al., 2008). When considering personal values and mental illness stigma, self-transcendence values (values consistent with egalitarianism, benevolence, and universalism) were an independent predictor of a preference for reduced social distance from individuals with mental illness. In other words, beliefs opposite to those espoused by the PWE worldview predicted a greater preference for interaction with the mentally ill. As such, individuals who hold higher levels of PWE values may more strongly identify with stigmatic beliefs about the mentally ill.

The PWE worldview was chosen to represent meritocratic worldviews in the present study. This choice was based on a number of factors including the recent use of the PWE worldview in the mental illness stigma literature (e.g., Rusch et al., 2010a), the

strong connection between the PWE and American Christianity and Western culture (Dain, 1992; Rosenthal, Levy, & Moyer, 2011) and the existence of an established methodology for experimental manipulation (Quinn & Crocker, 1999; Rusch et al., 2010a).

Summary. There is a strong connection between meritocratic worldviews and mental illness stigma. The PWE worldview is of particular interest when considering mental illness stigma within modern day American culture and is used as a representative of meritocratic belief systems in the present study. Different methods for measuring mental illness stigma will now be discussed.

Measuring Mental Illness Stigma

A typical way of examining mental illness stigma is by evaluating the attitudes that individuals hold toward mental illness. Attitude is defined here and common methods for measuring attitudes are presented with a focus on the measures utilized in the present research.

An attitude is an individual's preference or belief with regard to a certain object, construct, or group (Zimbardo & Leippe, 1991). Attitudes are pervasive and may vary in salience. They can be *explicit* or *implicit*, meaning that attitudes can be present in conscious awareness or may operate on the subconscious level (Eagly & Chaiken, 1998). Thus, attitudes may be consciously identifiable or they may be activated automatically without conscious awareness or moderating cognition (Fazio, Sanbonmatsu, Powell, & Kardes, 1986). It is important to evaluate attitudes on both the conscious and subconscious levels as change to both explicit attitudes and implicit attitudes (and not

simply one or the other) are necessary to impart lasting reduction in stigma (Sritharan & Gawronski, 2010).

Relationship Between Explicit and Implicit Attitudes. There is a complex relationship between explicit and implicit attitudes. Perhaps the most compelling description of the relationship is the Associative-Propositional Evaluation model (APE; Sritharan & Gawronski, 2010).

The APE presents explicit attitude evaluation and implicit attitude evaluation as fundamentally distinct processes. Implicit evaluations occur when relevant stimuli cause automatic affective reactions, involving very little cognitive volition (Sritharan & Gawronski, 2010). These evaluations can be activated whether an individual believes the evaluations to be accurate. Explicit evaluations are driven by propositional processes and are superordinate to, but reflective of, associative processes. Building from an affective reaction, propositional processes result in a proposition such as, "Blacks are dangerous and I should avoid them." Unlike associative processes, however, propositional processes are dependent on values and reason. Broad and lasting attitude change, thus, may only be possible given changes on both the explicit and implicit level (Sritharan & Gawronski, 2010).

The literature provides concrete data to support the assertion that the explicit and implicit attitude processes are fundamentally separate. A broad review of the IAT literature presented by Wittenbrink and Schwarz (2007) revealed a mean correlation of $r = 0.19$, indicating only a minor relationship. Typical methods of measuring explicit mental illness are now discussed.

Measuring Explicit Attitudes Toward Mental Illness. Attitudes toward mental illness have been measured by a number of explicit methods, meaning that the measures are self-evident and face valid. These have included self-report surveys, experimental manipulations, and qualitative research (see review by Link, Yang, Phelan, & Collins, 2004).

Most researchers have utilized self-report questionnaires to evaluate explicit stigma (Link et al., 2004). The most common variety of self-report questionnaires to measure explicit attitudes toward mental illness evaluate social distance, or the willingness to interact with individuals with mental illness. Utilized since the late 1950s (e.g., Whatley, 1959; Phillips, 1963), these measures typically show good reliability (Link et al., 2004). Social distance measures are strongly limited, however, by social desirability effects, as respondents may want to be seen as "enlightened and caring" (Link et al., 2004, p. 519). Additionally, social distance questionnaires tend to correlate poorly with actual behavior (Link et al., 2004).

A number of other approaches to measuring explicit attitudes have been utilized. The semantic differential methodology examines the labeling behavior of participants (Nunnally & Kitross, 1958). Other methods have directly assessed evaluations of mental illness. The Opinions About Mental Illness (OMI; Cohen & Struening,1962) and the Community Attitudes Toward the Mentally Ill (CAMI; Taylor & Dear, 1981) measures have been commonly used (Link et al., 2004).

Several more recent measures of explicit attitudes toward mental illness have been based on Weiner's (1986) work on attribution theory. Weiner argued that individuals have an affective response to stigmatizing attributes that (along with

perceived responsibility for the attributes) determines a behavioral response (e.g., anger leading to punishment or sympathy leading to helping behavior). Two of these types of explicit measures, Corrigan's Attribution Questionnaire and his Self-Stigma of Mental Illness Scale, were utilized in the present research.

The Attribution Questionnaire (AQ; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003) builds on Weiner's theory and has been widely used in various studies. The AQ utilized Weiner's (1988) attribution measure as well as eleven items from Reisenzein's (1986) measure. The AQ was designed to capture explicit attitudes about public mental illness stigma and requires participants to rate their agreement with statements about a fictional individual with a serious mental illness. The AQ evaluates nine negative stereotypic attitudes toward mental illness. These nine attitudes are the assignment of *Blame* to the mentally ill for their illness, *Anger* toward the mentally ill, *Sympathy* for individuals with mental illness, an (un)*Willingness to Help* those with mental illness, a perception of high *Dangerousness* of people with mental illness, *Fear* of mental illness, a desire for the *Coercion* of the mentally ill into receiving treatment, the *Segregation* of the mentally ill, and the *Avoidance* of individuals with mental illness. Several versions of the AQ have been created including a short form (AQ-9) and a version for children (AQ-C). The AQ has repeatedly been shown to have good internal consistency and construct validity (Corrigan et al., 2003; Link et al., 2004).

The Self-Stigma of Mental Illness Scale (SSMIS; Corrigan, Watson, & Barr, 2006) was designed to evaluate the attitudes related to the self-stigma of individuals with mental illness. The SSMIS includes four separate sections that evaluate the awareness of common stereotypes of mental illness, agreement with those stereotypes, self-application

of the stereotypes, and self-handicapping beliefs due to endorsement of the stereotypes. The SSMIS scales have shown acceptable internal consistency (α = 0.72-0.88) and test-retest reliability (α = 0.68-0.82; Corrigan et al., 2006).

Other attribution questionnaires that have been used to evaluate attitudes toward the mentally ill include the Revised Causal Dimension Scale (McAuley, Duncan, & Russell, 1992) and the Attitude to Mental Illness Questionnaire (Luty, Fekadu, Umoh, Gallagher, 2006). Both measures have good internal consistency and convergent validity (Link et al., 2004).

In summary, a variety of explicit measures of mental illness stigma have been developed. They are all limited in that they are explicit, meaning that respondents can easily determine what they are measuring. This makes them open to social desirability effects. Fortunately, methods of measuring implicit attitudes have also been developed.

Measuring Implicit Attitudes Toward Mental Illness. Explicit measures of attitudes are, by nature, direct and face valid as they seek to evaluate conscious beliefs. As discussed previously, this makes explicit methods highly susceptible to social desirability effects. Implicit measures, on the other hand, evaluate unconscious attitude structures. As these attitudes cannot be measured directly, indirect methods for evaluating these structures were developed. One of the major benefit of indirect methods are their resistance to social-desirability effects and faking. Some of the most popular methods for evaluating implicit attitudes are discussed below.

Perhaps the most popular, and most scrutinized, measure of implicit attitudes is the Implicit Association Test (IAT), which was developed in the mid-1990s and refined throughout the early 2000s. The IAT evaluates the relationship between a *target-concept*

discrimination and an *attribute dimension* (Greenwald, McGhee, & Schwartz, 1998; Fazio & Olson, 2003).

Target concepts are the broader objects, constructs, or groups of interest. The target concepts are generally split into two categories. For example, if racial attitudes are being studied, the target concepts might be White Americans/Black Americans. If ageism is of interest, the target concepts might be Young Adults/Elderly Adults. Within the mental illness stigma literature, researchers have frequently used IATs with Physical Illness/Mental Illness as target concepts.

The attribute dimension represents the attitude being evaluated. Like the target concept, the attribute dimension is divided into two categories. These categories are generally valenced with some classic examples of divided attribute dimensions being Pleasant/Unpleasant, Good/Bad, Competent/Helpless, and Innocent/Guilty (particularly in literature considering implicit attitudes toward mental illness).

Traditional IAT protocols utilize seven experimental blocks that are administered via computer. These protocols begin with an attribute dimension block in which participants group stimuli that recognizably belong to one of the two categories of the attribute dimension. For example, “Vacation” and “Vomit” might be stimuli in an IAT using Good/Bad as an attribute dimension. Each category is assigned to either the left hand or right hand, so that one button on a keyboard (e.g., the “e” key) is pressed by the left hand to categorize a stimulus into one of the target concept categories, while another button (e.g., the “i" key) is pressed by the right hand to categorize a stimulus into the other target concept category.

Next, participants complete a target-concept discrimination block in which they group stimuli that recognizably belong to one of the two categories of the target concept. For example, “Schizophrenia” and “Influenza” might be stimuli in an IAT using Physical Illness/Mental Illness as a target concept. Schizophrenia would be categorized as Mental Illness while Influenza would be categorized as Physical Illness.

After the initial target-concept discrimination block has been completed, participants complete a third block in which categories and stimuli from both the target-concept discrimination block and the attribute dimension block are superimposed. For example, in an IAT using Physical Illness/Mental Illness as a target concept and Good/Bad as an attribute dimension, categories might be combined so that Good stimuli and Physical Illness stimuli would be categorized together using the left hand key and Bad stimuli and Mental Illness stimuli would be categorized together using the right hand key. The fourth block is identical with a greater number of trials.

In the fifth block, participants complete another attribute dimension task. This block is identical to the first block except the original response assignments are reversed so that the category that was originally assigned to the left hand is now assigned to the right hand and vice versa.

In the sixth block, target-concept and attribute dimension categories are again combined, with the reversed attribute dimension assignments, so that each target-concept category is paired with the opposite attribute dimension. Using the former Physical Illness/Mental Illness/Good/Bad example, if Physical Illness was previously paired with Good then it would now be paired with Bad and vice versa. Block 7 is identical but with a greater number of trials. See Figure 1 for an example design of a Mental

Illness/Physical Illness Good/Bad IAT. See Figure 2 for examples of screen captures from each block of the same IAT.

Figure 1

Design of a Good/Bad Mental Illness/Physical Illness IAT (adapted from Wittenbrink & Schwarz, 2007)

Block	Left Key Assignment	Right Key Assignment
1	Good	Bad
2	Mental Illness	Physical Illness
3	Good	Bad
	Mental Illness	Physical Illness
4	Good	Bad
	Mental Illness	Physical Illness
5	Bad	Good
6	Bad	Good
	Mental Illness	Physical Illness
7	Bad	Good
	Mental Illness	Physical Illness

Figure 2

Example Screen Selections from Each Block of Good/Bad Mental Illness/Physical Illness IAT



The IAT has been used to evaluate many types of implicit attitudes. Perhaps the most frequently evaluated are racial attitudes. Many studies (e.g., Greenwald et al., 1998) have examined preference for either Black Americans or White Americans using stimuli such as traditional black or white names, or pictures of black or white faces. Some other broad categories of implicit attitudes that have been examined include religious affiliation, tobacco use, vegetarianism, sexual orientation, gender and mathematical ability, and aging (Fazio et al., 2003). Typically, results reveal a preference for the non-stereotyped group (Fazio et al., 2003).

The IAT has been shown to be unaffected by handedness, number of stimuli, or by the inter-trial interval (Greenwald et al., 1998). Additionally, the IAT effect is mainly unaffected by the way in which incorrect responses are treated (e.g., whether discarded or penalized; Greenwald & Nosek, 2001). Initial research also suggested that the IAT is not affected by the degree to which stimuli and categories are familiar to the participant (Dasgupta, McGhee, Greenwald, & Banaji, 2000). Internal consistency is reportedly acceptable (Banse, Seise, & Zerbes, 2001) as is convergent validity (Cunningham, Preacher, & Banaji, 2001; Rudman & Kilianski, 2000; Greenwald et al., 2001). When considering the discriminant validity of the IAT, self-report measures of explicit attitudes are most often used. A slightly positive relationship between self-report measures and the IAT has been found, as would be hypothesized given good discriminant validity (Bosson, Swann, & Pennebaker, 2000; Greenwald & Farnham, 2000). Depending on the attitudes being evaluated, however, the relationship between IAT data and self-report data can vary greatly in magnitude, while remaining consistently positive (Nosek, Banaji, & Greenwald, 2002).

A procedural order effect has been noted for IAT protocols. Associations between the target concepts and attribute dimensions paired in the first combined task tend to persist and interfere with performance on the second combined task due to a mild practice effect (Nosek et al., 2002). This potential confound can, however, be easily avoided through the use of counterbalancing pairing order.

IAT performance is difficult for participants to manipulate or suppress. Participants who were instructed to respond with a lack of automatic preference for Whites in an IAT to evaluate racial attitudes were unable to do so (Kim & Greenwald, 1998). These findings were replicated in a study using heterosexual participants instructed to fake positive implicit attitudes toward homosexuality (Banse et al., 2001).

The IAT, as originally designed, is evaluated through the calculation of a "D-score" (a related, but not identical, measure of effect-size to Cohen's *d*) based on the difference between the standardized mean response latency between target-concept and attribute pairings. The magnitude of the D-score represents the degree of association strength. In 2003, Greenwald and colleagues refined the calculation of D and described the procedure in detail. To summarize the calculation, the updated D-score is the difference in mean response latency between an IAT's two combined tasks divided by the inclusive standard deviation of response latencies within the two combined tasks (Wittenbrink & Scwarz, 2007).

Sriram and Greenwald (2009) created an abbreviated version of the IAT, with the primary goal of simplifying instructions and reducing overall task length. This version is known as the Brief Implicit Association Test (BIAT). The general format and theory of the BIAT and IAT are consistent with two notable differences. The first difference is the

number of trials, with the BIAT using one-third of the trials utilized by the traditional IAT. Secondly, participants are instructed to focus solely on one attribute dimension and one target concept during the paired categorization blocks.

The BIAT was consistent with the IAT for ageist, racist, and gender-related stereotypes (Sriram et al., 2009). Additionally, the procedural ordering effect noted for the IAT was observed to a lesser degree on the BIAT. Attempts at a direct comparison between the BIAT and IAT indicated small differences in test/retest performance. Minor disparities were also noted in the relationship between IAT and BIAT scores and participant responses on explicit attitude measures. Acceptable test-retest reliability and good internal consistency has also been established for BIATs evaluating several different types of attitudes (Sriram et al., 2009).

Aside from the IAT, a number of other methods to indirectly measure implicit attitudes have been developed. These include priming tasks, the Extrinsic Affective Simon Task, the Affect Misattribution Procedure, the Go/No-go Association Task, and non-computerized methods. These are briefly discussed here.

Some of the first indirect measures of attitudes were sequential priming tasks and these methods continue to be a popular way of assessing implicit attitudes. Priming tasks take advantage of cognitive processing theory in that primes (e.g., “doctor”) will activate and aid in the retrieval of related concepts (e.g., “nurse”; Wittenbrink & Schwarz, 2007). Wittenbrink and Schwarz (2007) outlined priming tasks in two categories, *Concept priming* tasks and *Evaluative priming* tasks. Concept priming tasks typically involve completing a lexical decision task (LDT; i.e., deciding whether a stimulus is a word or a non-word) following a prime (e.g., Wittenbrink, Judd, & Park, 1997). Evaluative priming

tasks are nearly identical to concept priming tasks with a few exceptions. First, target words are judged by valence (e.g., pleasant and unpleasant, good and bad, attractive and unattractive) instead of a LDT. Secondly, target words are primarily unrelated to the prime (e.g., “Black” as a prime and “Vacation” as a target; Fazio et al., 1986). Like the IAT, priming methods use latency to determine association strength.

Priming tasks have a number of strengths including resistance to faking and strong convergent validity (Wittenbrink & Schwarz, 2007). However, priming protocols are relatively complex when compared with some of the other measures of implicit attitudes and are, thus, more difficult to administer. Also, priming tasks may be less reliable than other indirect measures and may generate relatively small effect sizes (Wittenbrink & Schwarz, 2007).

The Extrinsic Affective Simon task (EAST) was introduced by De Houwer (2003). The EAST is similar to the IAT in that stimulus words are categorized by two separate dimensions. In a typical EAST task, stimuli are presented in the colors white, blue, or green in the center of a computer screen. Participants are tasked with categorizing these stimuli by pressing one of two keys. When the stimulus word is colored white, participants are instructed to categorize by the valence of the word. This is accomplished by pressing a key for positive white words or a different key for negative white words. Due to the nature of this process, the key assigned to positive valence categorizations becomes associated with positivity while the other key becomes associated with negative valence. When the stimulus word is colored blue or green, participants are instructed to categorize the stimulus simply by its color. For this categorization, one key is assigned to the blue color while the other key is assigned to be

green color. The EAST effect appears when participants show increased latency in response when categorizing colored words after the initial categorization by valence. The internal consistency of the EAST was acceptable with alphas ranging from 0.70 to 0.83. The task can be considered appropriate for the assessment of individual differences in prejudice (Degner & Wentura, 2008). Although the EAST has been shown to be effective in evaluating implicit attitudes, the IAT is more effective in determining inter-individual differences in implicit attitudes (DeHouwer & DeBruycker, 2007).

The Affect Misattribution Procedure (AMP; Payne, Cheng, Govorun, Stewart, 2005) is a variation on the priming methodology. Participants are instructed to rate a neutral target (e.g., a Chinese symbol) as either pleasant or unpleasant. Participants receive a brief (75 millisecond) "warning" stimulus, which served as a prime, prior to being presented with the target. Prime stimuli are either the attitude object being studied (e.g., pictures of Black faces and pictures of White faces) or a neutral stimulus (e.g., a patterned background). The positive or negative reaction of participants to the prime is misattributed to the neutral target. Thus, rating scores are assumed to represent positive or negative implicit attitudes toward the primes (Payne et al., 2005). AMP procedures have good internal and construct validity and are highly reliable. Similar to the IAT, the AMP consistently generates relatively large effect sizes compared to many other measures of implicit cognition (Payne et al., 2005).

Like the IAT, the Go/No-Go Association Task (GNAT; Nosek & Banaji, 2001) examines the strength of association between target categories and attributes. Unlike the IAT, however, the GNAT is establishes association strength without the use of contrasting categories (Nosek et al., 2001). The GNAT presents stimuli that serve as

either targets or distractors. Targets and distractors may be an attitude object (e.g., "White American") or a valenced attribute or concept (e.g., "Nasty"). Participants are instructed to respond using a singular key if the presented stimulus is a target and to inhibit responding when the stimulus is a distractor. Target categories are defined at the onset of each block. Instead of using response latency to measure preference, the GNAT utilizes accuracy (sensitivity). Construct and convergent validity of the GNAT is acceptable (Nosek et al., 2006).

While response latency methodologies are the most popular way of indirectly measuring attitudes, non-computerized and physiological measures are occasionally used. Word fragment completion (WFC) tasks require participants to complete a series of fragmented words within the context of measuring stereotype activation (Wittenbrink & Schwarz, 2007). The Stereotypic Explanatory Bias (SEB) task requires completers to observe and explain behaviors that are either consistent or inconsistent with stereotypes. Scores are based on the number of explanations provided (Wittenbrink & Schwarz, 2007; Sekaquaptewa, Espinoza, Thompson, Vargas, and von Hippel, 2003). Further, physiological methods, including event-related potentials (ERP) and function magnetic resonance imaging (fMRI) have been used increasingly to evaluate implicit attitudes (Wittenbrink & Schwarz, 2007).

Summary. Methods to measure explicit attitudes are generally self-report questionnaires that evaluate attitudes, most often in a face-valid fashion, and may be subject to social desirability confounds. Social distance questionnaires have been amongst the most historically popular method to measure explicit attitudes toward mental illness, but more recently developed measures have utilized attributional theories of

stigma. Some established methods of measuring implicit attitudes include the IAT, priming measures, the EAST, the GNAT, and the AMP. New physiological measures of implicit attitudes are also being developed and utilized. Of these, the IAT and its derivatives are most frequently used. The BIAT method was chosen to measure implicit attitudes in the present research.

Current Study

The present study examined the role of the PWE meritocratic worldview in mental illness stigma. To be specific, this study sought to establish a causal link between mental illness stigma and PWE by manipulating the latter and measuring stigma on the explicit and implicit levels.

The study has three main hypotheses.

1) Individuals in the High PWE group will exhibit more implicit mental illness stigma than individuals receiving the Low PWE manipulation.
2) Individuals in the High PWE group will exhibit more explicit mental illness stigma than individuals receiving the Low PWE manipulation.
3) Participants' level of contact with the mentally ill will be negatively related to their implicit and explicit scores of mental illness stigma.

Method

Participants

Participants included 290 Marquette University students enrolled in a general psychology course. Of these participants, 18 were removed from analysis due to errors in responding. Participants were required to enter their assigned participants numbers on two separate occasions and, if the numbers entered were not consistent, it was impossible to match participants with their data. Thus, 272 participants were considered in analyses. Participants completed the entire protocol in one sitting and received course credit for their participation. Please see Table 1 for demographic details of the sample.

Table 1

Participant Characteristics

Characteristic	n	%
Gender		
Male	71	26.1
Female	201	73.9
Race/Ethnicity		
White	212	77.9
Black/African American	11	4.0
American Indian/Alaskan Native	2	0.7
Asian	20	7.4
Native Hawaiian/Other Pacific Islander	2	0.7
Other	25	9.2
Class Standing		
Freshman	138	50.7
Sophomore	61	22.4
Junior	41	15.1
Senior	32	11.8
History of Psychiatric Treatment		
No	215	79.0
Yes	57	21.0

Materials

The participants completed the study protocol in a computer laboratory on the campus of Marquette University with a trained undergraduate research assistant. Individuals completed the study in groups that consisted of eight or fewer participants. Administration occurred electronically, with a portion of study materials hosted online by Opinio (ObjectPlanet, 2012) and a portion hosted by Inquisit (Millisecond Software, 2012), a popular stimulus presentation software package frequently used in IAT studies.

Experimental Manipulation. The experimental manipulation was adapted from Quinn and Crocker (1999). Participants read one of two "political speech" primes that either focused on values consistent with the PWE (e.g., hard work, self-determination, personal achievement, and personal responsibility) or on values inconsistent with the PWE (e.g., unity, acceptance, and openness to help). The primes used were identical to those used by Quinn and Crocker (1999).

A brief questionnaire was administered to participants directly after they read their assigned speech. Participants were asked to summarize the message of the speech in one sentence. Additionally, participants rated the perceived degree of power of the speech on a scale ranging from 1 (*extremely weak*) to 7 (*extremely powerful*) for each of three domains: overall Speech Power, Speech Content, and Speech Message. The questionnaire was intended to serve four important purposes. First, it was intended to increase the salience of the speeches. Second, it was intended to provide a measurement of the actual salience of the speeches. Third, the questionnaire was intended to hide the true intent of the manipulation. Finally, the questionnaire served as part of the manipulation check.

This methodology was consistent with that established by Quinn and Crocker (1999) with minor modification. The Speeches and Questionnaire are located in Appendix A.

Demographics Questionnaire. Participants were administered a brief demographics questionnaire. The questionnaire included prompts for basic demographic information, as well as self-report questions related to religious affiliation, psychiatric treatment history and satisfaction, and interest in the mental health field.

Measures of Explicit Attitudes Toward Mental Illness. A modified version of the AQ (Corrigan et al., 2003) was administered to assess explicit stereotypes of mental illness. The AQ requires participants to rate their agreement with statements about a fictional individual with schizophrenia ("Harry") who is experiencing emotional and functional difficulties due to his disorder on a nine-point Likert scale. Consistency and test-retest reliability of AQ have been established as acceptable (Corrigan et al., 2003).

The original AQ evaluates nine stereotypes as discussed previously.
The AQ was modified using a sample of Marquette University students (Saunders, 2013). Specifically, the Segregation scale had poor discriminant validity and was removed from analysis. Additionally, the Anger scale was split into two separate scales, Anger at Person and Anger at Condition. See Appendix B for the complete measure.

For the present study, internal consistency varied from scale to scale. Most scales had acceptable internal consistency including Sympathy (3 items, $\alpha = 0.79$), Anger at Person (3 items, $\alpha = 0.78$), Dangerousness (3 items, $\alpha = 0.89$), Fear (4 items, $\alpha = 0.91$), Willingness to Help (3 items, $\alpha = 0.82$), Coercion (4 items, $\alpha = 0.77$), and Avoidance (4 items, $\alpha = 0.74$). Two scales had questionable internal consistency, including Responsibility (4 items, $\alpha = 0.60$) and Anger at Condition (3 items, $\alpha =$

0.67), despite having been previously noted to be acceptable (α = 0.82 and α = 0.78, respectively; Saunders, 2013). Due to the importance of the Responsibility and Anger at Condition scales to the current research, these scales were still utilized in analyses.

Participants also completed the first two sections of the SSMIS (Corrigan et al., 2006). The first section is Stereotype Awareness and evaluates the degree to which participants are knowledgeable of common stereotypes of the mentally ill. Participants are asked to rate the degree to which they believe that the *general public* agrees with a series of ten of these common stereotypes on a nine-point Likert scale. The second section of the SSMIS is Stereotype Agreement and evaluates the degree to which participants agree with the same ten stereotypes presented in the Stereotype Awareness section. The SSMIS has shown acceptable internal consistency and test-retest reliability (Corrigan et al., 2006). The present study observed strong alpha values for each section (α = 0.95 and α = 0.92, respectively).

Measures of Implicit Attitudes Toward Mental Illness. Three BIATs were administered to each participant in order to evaluate three domains of implicit attitudes toward mental illness. For each of the BIATs, Mental Illness and Physical Illness were used as target categories. For the first BIAT (Good/Bad), Good and Bad were used as attribute categories with the intention of measuring a general degree of implicit mental illness stigma. Innocent and Blameworthy were used as attribute categories for the second BIAT (Innocent/Blameworthy), with the goal of measuring blame-related implicit stereotypes of mental illness. For the third BIAT (Competent/Helpless), Competent and Helpless were used as attribute categories, with the intention of measuring helplessness-related stereotypes of mental illness. General negativity, blameworthiness, and

helplessness were evaluated for two reasons. First, these are typical domains of stereotype toward the mentally ill (e.g., Byrne, 2000; Corrigan, Kuwabara, & O'Shaughnessy, 2009). Second, IATs evaluating these three categories of implicit stereotype were successfully utilized in a previous study (Teachman et al., 2006) from which the stimuli utilized in the present study were acquired. The stimuli were pretested and matched for salience by Teachman and colleagues (2006). The stimuli are included in Appendix C. This basic methodology was adapted from Rusch and colleagues (2010a) and the BIAT stimuli were adapted from Teachman and colleagues (2006).

A single sample t-test was used to compare mean D-scores for each BIAT with zero in order to establish the existence and direction of an IAT effect. The Good/Bad [M = 0.25, SD = 0.34; $t(271) = 12.42$, $p < 0.001$], Innocent/Blameworthy [M= 0.06, SD = 0.36; $t(271) = 2.72$, $p = 0.007$], and Competent/Helpless [M = 0.09, SD = 0.32; $t(271) = 4.44$, $p < 0.001$] were all significantly different from zero and in the expected direction (indicating implicitly held stereotypes against mental illness). Mean D-scores on the Good/Bad BIAT (0.25) were comparable with the median D-score (0.33) from a large sample of typical IAT scores (N = 2,575,535) reported by Greenwald and colleagues (2003). These findings suggest that the BIATs were effective in identifying implicit stigma amongst study participants, particularly when general implicit mental illness was considered.

Measure of Protestant Work Ethic Values. The Protestant Ethic Scale (PWE Scale; Katz & Hass, 1988) measures values consistent with the PWE and was used as a manipulation check. The PWE Scale is an 11-item measure extracted from the 19-item scale of Mirels and Garrett (1971). The PWE Scale is noted to have acceptable internal

consistency (α = .76; Katz et al., 1988). The scale has also shown acceptable discriminant validity when compared to a 20-item measure of humanitarian-egalitarian worldview (*r* = .83; Katz et al., 1988). The present research observed acceptable internal consistency for the PWE Scale (α = 0.73). The full measure is included in Appendix D.

Measure of Familiarity with Mental Illness. The Level of Contact Report (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999) was administered to evaluate participants' level of familiarity with mental illness. The Level of Contact Report is a rating scale in which participants select any of 12 statements describing lifetime familiarity with mental illness. Each of the 12 statements were rank-ordered by mental health experts by degree of contact. Interrater reliability between the raters was acceptable (α = 0.83; Holmes et al., 1999). The rank-order of the highest selected statement denotes a participant's score. For example, if a respondent endorses the highest ranked statement ("I have a severe mental illness") then the participant would receive a score of twelve. See Appendix E for the full instrument.

Measures of Mental Health. For the purposes of evaluating the composition of the sample, measures of psychiatric well-being were administered**.** The Rosenberg Self-Esteem Scale was used to measure the evaluations of each participant's overall self-esteem. The scale consists of 10 items rated for agreement, with higher scores indicating a greater amount of self-esteem. The Rosenberg Self-Esteem Scale has been shown to have good test-retest reliability as well as acceptable construct validity (Robinson & Shaver, 1973). Internal consistency was excellent in the current study (α = 0.90).

Participants also completed the Clinical Outcomes in Routine Evaluation Outcome Measure (CORE-OM). The CORE-OM (Barkham et al., 1998) is a 34-item

measure that evaluates current psychiatric symptoms. It is pan-theoretical and pan-diagnostic. The items cover four domains: *Well-being* (4 items), *Problems/Symptoms* (12 items), *Life Functioning* (12 items), and *Risk* (6 items). Each item is rated on a 5-point scale ranging from 0 (Not at all) to 4 (Most or all the time). Examinations of the psychometric properties of the CORE-OM report acceptable ranges of internal consistency and test-retest reliability (α = 0.75 and α = 0.95, respectively) and good convergent validity (Cahill et al., 2006). Confirmatory factor analysis supports the structural model of the four scales (Lyne, Barrett, Evan, & Barkham, 2006).

Procedure

Participants were recruited through flyers distributed at Marquette University. Participation included completing the protocol in one group data collection session in a university computer laboratory. A trained undergraduate research assistant instructed participants on how to access the study materials online. Participation took less than 90 minutes.

The research protocol was as follows. First, participants agreed to the informed consent and completed the demographics questionnaire. Next, they were administered the Rosenberg Self-Esteem Questionnaire and the CORE-OM. Participants then received either the High PWE or Low PWE manipulation and completed the Speech Questionnaire. Next, participants were administered the explicit and implicit stigma measures. The order in which these measures were completed was counterbalanced so that some participants were administered the three BIATs first while others completed the AQ and SSMIS questionnaires first. Participants always completed the BIATs in the

following order: Good/Bad, Innocent/Blameworthy, and Competent/Helpless. Likewise, all participants first completed the AQ and then the SSMIS.

Following the completion of the implicit and explicit stigma measures, participants were administered the PWE Scale (as a manipulation check) and Level of Contact Report. Finally, participants received a debriefing form.

Analyses

Descriptive Analyses. Descriptive statistics were calculated for each measure. Small differences in scores on the stigma measures due to psychiatric distress and familiarity with mental illness were anticipated based on prior literature (e.g., Rusch et al., 2010a; Teachman, Wilson, & Komarovskaya, 2006). Descriptive statistics are presented by overall sample and demographic factors. Additionally, descriptive statistics were used to determine covariates for group comparisons and post-hoc analyses.

Evaluation of the Hypotheses. The hypotheses were evaluated using traditional null hypothesis significance testing (NHST). As a first step, relationships between variables were calculated and covariates were identified for the multivariate analyses.

Hypothesis one, that individuals receiving the High PWE manipulation would show a greater degree of implicit mental illness stigma when compared with individuals receiving the Low PWE manipulation, was tested using a Multivariate Analysis of Covariance (MANCOVA).

Hypothesis two, that individuals receiving the High PWE manipulation would show a greater degree of explicit mental illness stigma when compared with individuals receiving the Low PWE manipulation, was tested using two MANCOVAs. One

MANCOVA was conducted to evaluate differences on the two SSMIS measures. Another MANCOVA evaluated group differences on AQ scale scores.

Hypothesis three, that participants' level of contact with the mentally ill would be negatively related to their implicit and explicit scores of mental illness stigma, was assessed using multiple regression analyses.

Results

Descriptive Statistics

In this section, descriptive statistics are presented for each measure. Tests were conducted to determine if scores varied on several demographic factors including gender, race and ethnicity (defined in this section as White or Non-White for the sake of statistical power), and history of psychiatric treatment.

Rosenberg Self-Esteem Scale. Scores on the Rosenberg Self-Esteem Scale ranged from 6 to 24. Descriptive Statistics for the Rosenberg Self-Esteem Scale by overall sample and by demographic factors are presented in Table 2.

Table 2

Descriptive Statistics for Rosenberg Self-Esteem Scale, CORE-OM, PWE Scale, and Level of Contact Report by Characteristic

Characteristic	Rosenberg Total M (SD)	CORE-OM Total M (SD)	PWE Scale M (SD)	Level of Contact M (SD)
Total Sample	18.82 (3.31)	1.10 (0.52)	48.55 (8.73)	7.72 (3.04)
Gender				
Male	18.90 (3.04)	1.26 (0.53)	50.44 (9.36)	7.77 (3.15)
Female	18.79 (3.40)	1.04 (0.50)	47.89 (8.42)	7.70 (3.01)
Race/Ethnicity				
White	18.87 (3.33)	1.09 (0.52)	48.11 (8.78)	7.86 (3.01)
Non-White	18.63 (3.23)	1.17 (0.52)	50.12 (8.44)	3.53 (1.45)
Psychiatric Treatment				
Yes	19.11 (3.01)	1.05 (0.51)	48.47 (8.61)	3.10 (1.30)
No	17.74 (4.08)	1.31 (0.51)	48.88 (9.22)	3.40 (1.45)

Of the total sample, 39 participants (14.34%) recorded total scores of 15 or below, indicating low self-esteem. There were no differences in Rosenberg Self-Esteem Scale scores based on gender [$t(270) = 2.41$, $p = 0.810$] or race/ethnicity [$t(270) = 0.49$, $p = 0.622$]. Participants with a psychiatric treatment history scored lower on the Rosenberg Self-Esteem Scale than those without [$t(72.98) = 2.37$, $p = 0.021$].

CORE-OM. Mean total scores on the CORE-OM ranged from 0.24 to 3.00. Descriptive Statistics for the CORE-OM by overall sample and by demographic factors are presented in Table 2.

Men recorded higher CORE-OM scores than women [$t(270) = 2.92$, $p = 0.004$]. There were no differences in CORE-OM scores based on race/ethnicity [$t(270) = -1.11$, $p = 0.270$]. Participants with a psychiatric treatment history scored higher on the CORE-OM than those without [$t(270) = -3.47$, $p = 0.001$].

The norms presented in the Core Systems User Manual (Core Systems Team, 1998) report an all-item mean score of 0.76 (SD = 0.59, N = 1084) for a non-clinical college student sample. The participants in the current sample scored significantly higher [$t(1354) = 8.69$, $p < 0.001$]. This difference remained significant even when participants with a treatment history and low self-esteem (Rosenberg score less than 15) were removed from consideration [$t(1279) = 4.77$, $p < 0.001$]. These findings indicate that the sample as a whole experienced more psychiatric symptoms than would have been expected from non-clinical college students.

PWE Scale. Scores on the PWE Scale ranged from 11 to 74. Descriptive Statistics for the PWE Scale by overall sample and by demographic factors are presented in Table 2.

Men recorded higher PWE Scale scores than women [$t(270) = 2.13$, $p = 0.034$], but there were no differences in PWE scores based on race/ethnicity [$t(270) = -1.58$, $p = 0.116$] or psychiatric treatment history [$t(270) = -0.32$, $p = 0.752$].

The PWE scores reported in the current study were roughly consistent with those recorded by 116 "normal weight" participants (those with no weight concerns) in the Quinn and Crocker study (1999; M = 46.75, SD = 7.15). The current scores are also roughly consistent with transformed PWE scores reported by Mirels and Garrett (1971; N = 81, M = 58.86, SD = 10.84) and Feather (1984; N = 116, M = 56.57, SD = 9.05). As such, the PWE scores for the overall sample were considered to fall within the expected range.

Level of Contact Report. Scores on the Level of Contact Report ranged from 1 to 12. Descriptive Statistics for the Level of Contact Report by overall sample and by demographic factors are presented in Table 2.

Participants with a psychiatric treatment history reported a higher level of contact with mental illness [$t(93.31) = -2.11$, $p = 0.037$]. There were no difference in Level of Contact Report scores based on gender [$t(270) = 0.19$, $p = 0.853$] or race/ethnicity [$t(270) = 1.49$, $p = 0.136$].

AQ Scales. Descriptive Statistics for the AQ scales by overall sample and by demographic factors are presented in Table 3.

Table 3

Descriptive Statistics for AQ Scales by Characteristic

Characteristic	AQ Responsibility M (SD)	AQ Sympathy M (SD)	AQ Anger at Person M (SD)	AQ Anger at Condition M (SD)	AQ Dangerousness M (SD)	AQ Fear M (SD)	AQ Willingness to Help M (SD)	AQ Coercion M (SD)	AQ Avoidance M (SD)
Total Sample	3.17 (1.34)	7.01 (1.50)	2.27 (1.28)	3.31 (1.60)	2.91 (1.54)	2.66 (1.55)	2.66 (1.54)	4.98 (1.64)	3.60 (1.55)
Gender									
Male	3.57 (1.45)	6.77 (1.70)	2.55 (1.30)	3.40 (1.54)	3.34 (1.69)	3.00 (1.62)	3.09 (1.61)	4.82 (1.57)	3.88 (1.59)
Female	3.02 (1.27)	7.10 (1.42)	2.17 (1.22)	3.27 (1.62)	2.76 (1.45)	2.55 (1.51)	2.51 (1.50)	5.03 (1.67)	3.50 (1.53)
Race/Ethnicity									
White	3.06 (1.29)	7.09 (1.45)	2.24 (1.25)	3.33 (1.61)	2.85 (1.51)	2.63 (1.53)	2.67 (1.49)	4.89 (1.57)	3.56 (1.50)
Non-White	3.53 (1.45)	6.73 (1.64)	2.38 (1.39)	3.21 (1.56)	3.11 (1.61)	2.74 (1.64)	2.62 (1.75)	5.26 (1.86)	3.73 (1.72)
Psychiatric Treatment									
Yes	3.10 (1.30)	7.05 (1.39)	2.31 (1.28)	3.33 (1.62)	2.95 (1.56)	2.71 (1.59)	2.68 (1.45)	5.06 (1.53)	3.63 (1.44)
No	3.40 (1.45)	6.86 (1.86)	2.12 (1.26)	3.21 (1.54)	2.80 (1.45)	2.47 (1.39)	2.60 (1.86)	4.67 (1.99)	3.48 (1.92)

Men scored higher on the Responsibility [$t(270) = 3.00$, $p = 0.003$], Anger at Person [$t(270) = 2.14$, $p = 0.033$], Dangerousness [$t(270) = 2.77$, $p = 0.006$], Fear [$t(270) = 2.12$, $p = 0.035$], and Willingness to Help [$t(270) = 2.72$, $p = 0.007$] scales than women. There were no difference between genders on the Sympathy [$t(270) = -1.56$, $p = 0.119$], Anger at Condition [$t(270) = 0.60$, $p = 0.547$], Coercion [$t(270) = -0.91$, $p = 0.0.361$], or Avoidance [$t(270) = 1.81$, $p = 0.071$] scales.

Non-white participants scored higher than white participants on the Responsibility scale [$t(270) = -2.44$, $p = 0.015$]. There were no differences on the Sympathy [$t(270) = 1.64$, $p = 0.102$], Anger at Person [$t(270) = -0.73$, $p = 0.469$], Anger at Condition [$t(270) = 0.55$, $p = 0.586$], Dangerousness [$t(270) = -1.12$, $p = 0.262$], Fear [$t(270) = -0.42$, $p = 0.677$], Willingness to Help [$t(270) = 0.26$, $p = 0.798$], Coercion [$t(270) = -1.53$, $p = 0.127$], or Avoidance [$t(270) = -0.74$, $p = 0.458$] scales.

There were no differences based on psychiatric treatment history on any of the AQ scales, including Responsibility [$t(270) = -1.52$, $p = 0.129$], Sympathy [$t(73.51) = 0.74$, $p = 0.463$], Anger at Person [$t(270) = 1.03$, $p = 0.304$], Anger at Condition [$t(270) = 0.53$, $p = 0.595$], Dangerousness [$t(270) = 0.66$, $p = 0.512$], Fear [$t(270) = 1.02$, $p = 0.311$], Willingness to Help [$t(75.06) = 0.31$, $p = 0.757$], Coercion [$t(74.53) = 1.37$, $p = 0.176$], and Avoidance [$t(73.47) = 0.56$, $p = 0.581$].

SSMIS Stereotype Awareness and Stereotype Agreement. Scores on the SSMIS Stereotype Awareness ranged from 10 to 80. Scores on the SSMIS Stereotype Agreement ranged from 10 to 90. Descriptive Statistics for SSMIS Stereotype Awareness and SSMIS Stereotype Agreement scales by overall sample and by demographic factors are presented in Table 4.

Table 4

Descriptive Statistics for SSMIS Stereotype Agreement and Awareness and BIATs by Characteristic

Characteristic	SSMIS Stereotype Awareness M (SD)	SSMIS Stereotype Agreement M (SD)	BIAT Good/Bad M (SD)	BIAT Innocent/ Blameworthy M (SD)	BIAT Competent/ Helpless M (SD)
Total Sample	53.84 (21.39)	28.30 (13.95)	0.25 (0.34)	0.06 (0.36)	0.09 (0.32)
Gender					
Male	18.90 (3.04)	1.26 (0.53)	50.44 (9.36)	7.77 (3.15)	0.11 (0.31)
Female	18.79 (3.40)	1.04 (0.50)	47.89 (8.42)	7.70 (3.01)	0.08 (0.32)
Race/Ethnicity					
White	18.87 (3.33)	1.09 (0.52)	48.11 (8.78)	7.86 (3.01)	0.08 (0.31)
Non-White	18.63 (3.23)	1.17 (0.52)	50.12 (8.44)	3.53 (1.45)	0.10 (0.34)
Psychiatric Treatment					
Yes	19.11 (3.01)	1.05 (0.51)	48.47 (8.61)	3.10 (1.30)	0.08 (0.31)
No	17.74 (4.08)	1.31 (0.51)	48.88 (9.22)	3.40 (1.45)	0.09 (0.35)

Women scored higher on the SSMIS Stereotype Awareness [$t(270) = -2.27$, $p = 0.024$], whereas men scored higher on the SSMIS Stereotype Agreement [$t(270) = 2.52$, $p = 0.012$]. There were no significant differences in SSMIS Stereotype Awareness [$t(270) = 1.17$, $p = 0.245$] or SSMIS Stereotype Agreement [$t(270) = -1.77$, $p = 0.078$] based on race/ethnicity. There were also no differences in SSMIS Stereotype Awareness [$t(270) = 0.21$, $p = 0.836$] or SSMIS Stereotype Agreement [$t(74.05) = -0.55$, $p = 0.587$] based on psychiatric treatment history.

BIATs. Scores on the Good/Bad BIAT ranged from -1.08 to 0.95. Scores on the Innocent/Blameworthy BIAT ranged from -0.96 to 0.94. Scores on the Competent/Helpless BIAT ranged from -1.05 to 0.85. Descriptive Statistics for the BIATs by overall sample and by demographic factors are presented in Table 4.

There were no gender differences on the Good/Bad BIAT [$t(270) = 1.05$, $p = 0.296$], Innocent/Blameworthy BIAT [$t(270) = -0.30$, $p = 0.769$], or Competent/Helpless BIAT [$t(270) = -0.67$, $p = 0.506$]. Non-white participants registered higher levels of stigma on the Good/Bad BIAT [$t(270) = 3.10$, $p = 0.002$]. There were no differences based on race/ethnicity on the Innocent/Blameworthy BIAT [$t(270) = -0.11$, $p = 0.911$] or the Competent/Helpless BIAT [$t(270) = 0.27$, $p = 0.786$]. Participants with a psychiatric treatment history registered higher levels of stigma on the Good/Bad BIAT than those without a history of treatment [$t(270) = 2.37$, $p = 0.018$]. There were no differences based on treatment history on the Innocent/Blameworthy BIAT [$t(270) = -0.05$, $p = 0.958$] or the Competent/Helpless BIAT [$t(270) = 0.07$, $p = 0.945$].

Familiarity with Mental Illness, Personal Psychopathology, and Stigma Toward Mental Illness

In this section, the relationship between participants' familiarity with mental illness, current level of psychiatric distress, and mental illness stigma is examined. The scientific literature has identified personal psychopathology and familiarity with mental illness as correlates of mental illness stigma (e.g., Quinn et al., 1999; Rusch et al., 2010a). As such, these analyses were conducted in order to identify covariates needed for multivariate analyses.

Treatment History and Familiarity with Mental Illness. As presented in the Descriptive Statistics section above, independent-samples t-tests were conducted in order to determine whether there were significant differences in scores on the explicit and implicit stigma measures based on treatment history. As shown in Table 3 and Table 4, the only significant finding was that individuals with a treatment history scored higher on the Good/Bad BIAT than those without. This finding is consistent with much of the literature that suggest increased implicit self-stigma amongst outgroup members (e.g., Rusch et al., 2010b).

Due to the relationship between whether participants had received treatment and scores on the Good/Bad BIAT, treatment history was used as a covariate for group comparison and regression analyses on the implicit measures.

The Level of Contact Report measured the degree to which participants were familiar with mental illness. Table 5 shows the correlation between the attitude measures and identified covariates. As shown, Dangerousness, Willingness to Help, and Avoidance scale scores were negatively related to Level of Contact scores. The Responsibility,

Sympathy, Anger at Person, Anger at Condition, Fear, and Coercion scale scores were not significantly related to familiarity with mental illness.

Table 5

Correlations Between Explicit and Implicit Stigma Scores and Covariates

Measure	Rosenberg Self-Esteem	CORE-OM	Level of Contact Report	Treatment History
AQ Responsibility	0.02	0.01	-0.02	0.09
AQ Sympathy	-0.04	0.06	-0.01	0.05
AQ Anger at Person	-0.03	0.06	-0.08	-0.06
AQ Anger at Condition	-0.03	0.02	-0.12	-0.03
AQ Dangerousness	0.06	0.04	-0.13*	-0.04
AQ Fear	-0.02	0.05	-0.11	-0.06
AQ Willingness to Help	0.00	-0.01	-0.15*	-0.02
AQ Coercion	0.15*	-0.10	-0.01	-0.10
AQ Avoidance	0.09	-0.10	-0.16**	-0.04
SSMIS Stereotype Awareness	0.04	0.00	-0.02	-0.01
SSMIS Stereotype Agreement	0.07	-0.03	-0.19**	0.04
BIAT Good-Bad	0.12	-0.09	0.05	0.14*
BIAT Innocent-Blameworthy	-0.04	0.03	0.03	0.00
BIAT Competent-Helpless	-0.01	-0.01	-0.01	0.00

Note: * $p < 0.05$ ** $p < 0.01$

As also can be seen in Table 5, scores on the SSMIS Stereotype Agreement measure were negatively related to Level of Contact scores. However, there was no relationship between SSMIS Stereotype Awareness and mental illness familiarity.

There was no significant relationship between any of the BIAT measures and Level of Contact scores. See Table 5 for correlations between stigma summary scores and Level of Contact scores.

Due to several significant negative relationships between experience with mental illness and scores on the explicit stigma measures, Level of Contact scores were used as a covariate for group comparison and regression analyses on the explicit measures.

Personal Psychopathology. The Rosenberg Self-Esteem Scale and the CORE-OM measured participants' present level of psychopathology. As also seen in Table 5, Rosenberg Self-Esteem Scale scores were not significantly related to SSMIS scores. However, self-esteem was positively related to AQ Coercion scale scores, suggesting that participants with higher self-esteem felt more strongly that individuals with mental illness should be forced to seek treatment. Self-esteem scores were negatively related to CORE-OM and Level of Contact scores, indicating that participants with lower levels of self-esteem tended to have higher psychiatric distress and greater contact with mental illness. CORE-OM scores were not significantly correlated with stigma measures, but were positively associated with Level of Contact scores, indicating that higher psychiatric distress was related to higher familiarity with mental illness.

Table 6 shows the correlations between the explicit mental illness stigma measures. Table 7 displays the correlations between the measures of implicit mental illness stigma.

Table 6

Correlations Between Explicit Stigma Scores

Measure	2	3	4	5	6	7	8	9	10	11
1. AQ Responsibility Mean	0.27**	0.24**	0.12*	0.11	0.12*	0.27**	0.12	0.30**	0.19**	0.02
2. AQ Sympathy Mean		0.16**	-0.08	0.04	0.07	0.35**	-0.15*	0.18**	0.11	-0.04
3. AQ Anger at Person Mean			0.64**	0.52**	0.58**	0.37**	0.20**	0.49**	0.36**	-0.03
4. AQ Anger at Condition Mean				0.40**	0.42**	0.22*	0.26**	0.35**	0.27**	-0.03
5. AQ Dangerousness Mean					0.83**	0.40**	0.31**	0.56**	0.52**	0.06
6. AQ Fear Mean						0.44**	0.27**	0.55**	0.46**	-0.02
7. AQ Willingness to Help Mean							0.03	0.57**	0.41**	0.00
8. AQ Coercion Mean								0.22**	0.20**	0.15*
9. AQ Avoidance Mean									0.48**	0.09
10. SSMIS Stereotype Awareness									0.21**	0.04
11. SSMIS Stereotype Agreement										0.07

Note: *$p < 0.05$ **$p < 0.01$

Table 7

Correlations Between Explicit and Implicit Stigma Scores

Measure	BIAT Good-Bad D-Score	BIAT Innocent-Blameworthy D-Score	BIAT Competent-Helpless D-Score
AQ Responsibility	-0.11	-0.13*	0.04
AQ Sympathy	0.04	0.00	-0.08
AQ Anger at Person	0.06	0.03	0.01
AQ Anger at Condition	0.02	0.00	0.06
AQ Dangerousness	-0.11	0.00	0.04
AQ Fear	-0.07	-0.03	0.03
AQ Willingness to Help	-0.02	0.03	-0.03
AQ Coercion	-0.09	0.07	0.03
AQ Avoidance	-0.06	-0.02	0.02
SSMIS Stereotype Awareness	-0.03	0.00	0.08
SSMIS Stereotype Agreement	-0.05	-0.01	0.06

Note: * $p < 0.05$ ** $p < 0.01$

Manipulating PWE: Determinants of Stigma

In this section, the experimental manipulation of PWE is examined and the High PWE and Low PWE groups are compared. First, the composition of each group by demographic factors is discussed. Second, the experimental manipulation is assessed. Finally, group differences based on scores on the stigma measures are tested.

Group Composition. The High PWE (N = 139) and Low PWE (N = 133) conditions were compared on age, gender, race, treatment history, self-esteem, and psychiatric distress. There was not a difference in the mean age of participants between the High PWE (M = 19.14, SD = 1.26) and Low PWE (M = 19.25, SD = 1.30) groups [$t(270) = -0.71$, $p = 0.479$]. More participants assigned to the Low PWE group had a history of psychiatric treatment than did individuals in the High PWE group [$\chi^2(1, N = 272) = 4.50$, $p = 0.034$]. As treatment history was identified as a covariate for scores on measures of implicit stigma, this natural difference between groups was already nullified in analyses in which treatment history was relevant. There were no differences between groups in terms of gender [$\chi^2(1, N = 272) = 0.40$, $p = 0.528$] or race [$\chi^2(1, N = 272) = 0.61$, $p = 0.436$]. There were no significant differences between the Rosenberg Self-Esteem scores of the High PWE (M = 18.94, SD = 3.01) and Low PWE (M = 18.69, SD = 3.60) groups [$t(270) = 0.62$, $p = 0.533$]. On the CORE-OM, there were no differences between High PWE (M = 1.04, SD = 0.50) and Low PWE (M = 1.16, SD = 0.53) groups [$t(270) = -1.81$, $p = 0.072$]. Likewise, no differences were noted between the High PWE (M = 7.60, SD = 3.12) and Low PWE (M = 7.83, SD = 2.97) groups on the Level of Contact Report [$t(270) = -0.62$, $p = 0.533$]. Based on these comparisons, the groups were judged to be equivalent.

Manipulation Check. In order to evaluate the effectiveness of the experimental manipulation, the comparison groups were compared on post-manipulation PWE Scale scores. An independent samples t-test revealed no differences between the High PWE (M = 49.12, SD = 8.25) and the Low PWE (M = 47.96, SD = 9.20) groups [$t(270) = 1.09$, $p = 0.277$], which suggests that the manipulation was unsuccessful.

Ratings on the Speech Manipulation Questionnaire were also examined. Overall mean scores for each rating domain, including Speech Power (M = 5.15, SD = 1.12), Speech Content (M = 5.32, SD = 1.21), and Speech Message (M = 5.09, SD = 1.24) were comparable. An independent samples t-test revealed no differences between High PWE and Low PWE on Speech Power [$t(270) = -1.30$, $p = 0.196$], Speech Content [$t(270) = -1.50$, $p = 0.134$], or Speech Message [$t(270) = -1.19$, $p = 0.236$] ratings.

Group Comparisons. The High PWE and Low PWE groups were compared on the measures of stigma. Two MANCOVAs were utilized in order to evaluate differences between groups on the explicit measures of stigma. The first MANCOVA evaluated group differences on SSMIS scores. Comparison group was used as the independent variable with the SSMIS Stereotype Awareness and SSMIS Stereotype Agreement summary scores as the Dependent variables. As it was identified as a covariate to the explicit measures, Level of Contact scores were entered as a fixed factor. The test revealed no main effect for condition [Wilks' $\lambda = 0.99$, $F(2, 268) = 0.95$, $p = 0.390$, partial eta square = 0.01, power = 0.21]. See Table 8 for mean scores and between-subjects effects.

The second MANCOVA evaluated group differences on AQ scale scores. Again, no main effect was found [Wilks' $\lambda = 0.99$, $F(9, 261) = 0.48$, $p = 0.886$, partial eta square

= 0.02, power = 0.24]. Likewise, there were no differences between groups on Responsibility, Sympathy, Anger at Person, Anger at Condition, Dangerousness, Fear, Willingness to Help, Coercion, or Avoidance scale scores. See Table 8 for mean scores and between-subjects effects.

Table 8

Between-Subjects Effects From MANOVA of PWE Condition and Stigma Measures

	High PWE Group		Low PWE Group				Partial	
Measure	M	SD	M	SD	F	*p*	η^2	Power
SSMIS								
Stereotype Awareness	54.72	21.00	52.92	21.83	0.47	0.496	0.00	0.10
Stereotype Agreement	27.56	12.20	29.08	15.58	1.06	0.305	0.00	0.18
AQ								
Responsibility	3.14	1.28	3.18	1.40	0.09	0.767	0.00	0.06
Sympathy	3.06	1.53	2.91	1.47	0.72	0.398	0.00	0.14
Anger at Person	2.21	1.18	2.33	1.37	0.68	0.409	0.00	0.13
Anger at Condition	3.15	1.51	3.47	1.68	2.94	0.088	0.01	0.40
Dangerousness	2.82	1.56	3.01	1.51	1.20	0.275	0.00	0.19
Fear	2.61	1.56	2.72	1.55	0.46	0.501	0.00	0.10
Willingness to Help	2.67	1.55	2.65	1.54	0.00	0.971	0.00	0.05
Coercion	4.93	1.69	5.02	1.59	0.24	0.626	0.00	0.08
Avoidance	3.58	1.53	3.62	1.58	0.11	0.739	0.00	0.06
BIAT								
Good/Bad	0.26	0.35	0.25	0.33	0.27	0.604	0.00	0.08
Innocent/ Blameworthy	0.08	0.37	0.04	0.35	1.47	0.226	0.01	0.23
Competent/Helpless	0.08	0.31	0.09	0.32	0.03	0.868	0.00	0.05

Finally, group differences in scores on the implicit measures of mental illness stigma were evaluated by a MANCOVA. Comparison group was entered as the independent variable, with the Good/Bad, Innocent/Blameworthy, and Competent/Helpless BIAT D-scores entered as Dependent variables. As it was identified as a covariate for implicit measures, treatment history was entered as a fixed factor. There was no main effect for condition [Wilks' $\lambda = 0.99$, $F(3, 266) = 0.58$, $p = 0.627$, partial eta square = 0.01, power = 0.17]. Post-hoc analyses revealed no differences between conditions on Good/Bad, Innocent/Blameworthy, or Competent/Helpless D-scores. See Table 8 for mean scores and between-subjects effects.

Post-Hoc Analysis: Measuring PWE

The manipulation check revealed that there were no differences between the comparison groups on PWE Scale scores. When considered in combination with the finding that the groups were equivalent on the measures of stigma, there is strong evidence to suggest that the experimental manipulation was ineffective. As such, it was assumed that participants' PWE Scale scores represented their baseline levels of PWE orientation. In a series of post-hoc analyses conducted to evaluate further the relationship between PWE and mental illness stigma, PWE Scale scores were treated as a naturalistic variable and evaluated as predictors of mental illness stigma.

PWE as a Predictor of Explicit Mental Illness Stigma. Consistent with the hypotheses, it was expected that PWE scores would be associated with scores on the explicit stigma measures. Several stepwise multiple regression analyses were conducted using the SSMIS Stereotype Awareness, and SSMIS Stereotype Agreement scores individually as dependent variables. For each regression analysis, PWE scores were used

as a predictor variable entered in Step 2 with the previously identified covariate, level of familiarity with mental illness, entered in Step 1. Table 9 displays the results of multiple regression analysis for PWE scores predicting SSMIS scores. Findings revealed that PWE scores predicted SSMIS Stereotype Agreement scores. However, there was not a significant predictive relationship between PWE and SSMIS Stereotype Awareness scores.

Table 9

Hierarchical Regression Analysis for PWE Score Predicting SSMIS Scores

		Model 1					Model 2				
Summary Score	Variable	*B*	*SE B*	β	*R*	R^2	*B*	*SE B*	β	*R*	R^2
SSMIS Stereotype Awareness	Contact	-0.12	0.43	-0.02	0.02	0.00	-0.09	0.43	-0.01	0.12	0.01
	PWE Score						0.29	0.15	0.12		
SSMIS Stereotype Agreement	Contact	-0.85	0.27	-0.19**	1.86	0.03	-0.79	0.26	-0.17**	0.38	0.14
	PWE Score						0.52	0.09	0.33**		

Note: $^{**}p < 0.01$

Additional stepwise multiple regression analyses were conducted to examine the predictive relationship between PWE scores and AQ scale scores. For these analyses, each AQ scale score was individually entered as a dependent variable while PWE scores and Level of Contact scores were again entered as a predictor variable and covariate, respectively. Table 10 displays the results of multiple regression analysis for PWE scores predicting AQ scale scores. Findings revealed that PWE predicted scores on the Dangerousness and Avoidance scales. This indicated that participants' level of PWE identification predicted the perceived level of threat of individuals with mental illness and the degree to which participants wanted to distance themselves from the mentally ill. There was no significant predictive relationship between PWE and scores on the Sympathy, Anger at Person, Anger at Condition, Fear, Willingness to Help, and Coercion scales. Participants' PWE scores approached significance for predicting Responsibility scale scores.

Table 10

Hierarchical Regression Analysis for PWE Score Predicting AQ Scale Scores

		Model 1					Model 2				
AQ Scale	Variable	*B*	*SE B*	β	*R*	R^2	*B*	*SE B*	β	*R*	R^2
Responsibility	Contact	-0.01	0.03	-0.02	0.23	0.00	-0.01	0.03	-0.02	0.14	0.02
	PWE Score						0.02	0.01	0.13		
Sympathy	Contact	0.00	0.03	-0.01	0.01	0.00	0.00	0.03	0.00	0.05	0.00
	PWE Score						0.01	0.01	0.05		
Anger at Person	Contact	-0.03	0.03	-0.08	0.83	0.01	-0.03	0.03	-0.08	0.13	0.02
	PWE Score						0.02	0.01	0.11		
Anger at Condition	Contact	-0.06	0.03	-0.12	0.12	0.01	-0.06	0.03	-0.11	0.15	0.02
	PWE Score						0.02	0.01	0.09		
Dangerousness	Contact	-0.07	0.03	-0.13*	0.13	0.16	-0.06	0.03	-0.12*	0.21	0.05
	PWE Score						0.03	0.01	0.17**		
Fear	Contact	-0.05	0.03	-0.11	0.11	0.01	-0.05	0.03	-0.10	0.16	0.03
	PWE Score						0.02	0.01	0.12		
Willingness to Help	Contact	-0.08	0.03	-0.15*	0.15	0.02	-0.08	0.03	-0.15*	0.17	0.03
	PWE Score						0.01	0.01	0.08		
Coercion	Contact	0.00	0.03	0.00	0.01	0.00	0.00	0.03	0.00	0.02	0.00
	PWE Score						0.00	0.01	0.01		
Avoidance	Contact	-0.08	0.03	-0.16**	0.16	0.03	-0.08	0.03	-0.16**	0.21	0.04
	PWE Score						0.02	0.01	0.13*		

Note: *$p < 0.05$. **$p < 0.01$.

PWE as a Predictor of Implicit Mental Illness Stigma. Next, the relationship between PWE and the measures of implicit mental illness stigma was explored. It was expected that PWE would predict implicit mental illness stigma. Stepwise multiple regressions were again utilized. D-scores for each of the Good/Bad, Innocent/Blameworthy, and Competent/Helpless BIATs were used as Dependent variables. PWE scores were entered as the predictor variable in Step 2 with the identified covariate, treatment history, was entered in Step 1. Findings revealed no relationship between PWE scores and D-scores, indicating that PWE did not predict implicit mental illness stigma. See Table 11 for the regression analyses for PWE and BIAT scores.

Table 11

Hierarchical Regression Analysis for PWE Score Predicting BIAT Scores

		Model 1					Model 2				
Summary Score	Variable	*B*	*SE B*	*β*	*R*	R^2	*B*	*SE B*	*β*	*R*	R^2
BIAT Good-Bad	Treatment History	0.12	0.05	0.14*	0.14	0.02	0.12	0.05	0.14*	0.15	0.02
	PWE Score						0.00	0.00	0.04		
BIAT Innocent-Blameworthy	Treatment History	0.00	0.05	0.00	0.00	0.00	0.00	-0.05	0.00	0.03	0.00
	PWE Score						0.00	0.00	-0.03		
BIAT Competent-Helpless	Treatment History	0.00	0.05	0.00	0.00	0.00	0.01	0.05	0.01	0.11	0.01
	PWE Score						0.00	0.00	-0.11		

Note: *$p < 0.05$. **$p < 0.01$.

The Effect of Contact on Explicit Mental Illness Stigma. Given the established connection between PWE Scale and explicit mental illness stigma scores, the relationship between Level of Contact scores and the previously identified explicit covariates (AQ Dangerousness, AQ Willingness to Help, AQ Avoidance, and SSMIS Stereotype Agreement scores) was again examined while controlling for PWE Scale scores. Findings revealed significant negative correlations for PWE scores and AQ Dangerousness (r = -0.12, p = 0.043), AQ Willingness to Help (r = -0.15, p = 0.012), AQ Avoidance (r = -0.16, p = 0.009), and SSMIS Stereotype Agreement (r = -0.18, p = 0.003). PWE scores had little effect on the relationship between familiarity with mental illness and scores on the explicit measures. These results indicate that level of familiarity with mental illness is negatively related to explicit mental illness stigma even when PWE orientation is considered.

Discussion

Mental illness stigma remains a monumental barrier to treatment seeking and adherence. Indeed, the stigma of having a mental illness may cause as much distress and impairment as the illness itself (Corrigan, 1998). Negative attitudes can occur on the explicit and implicit levels, potentially making them difficult to evaluate and modify. Identifying the causes and determinants of the mental illness stigma process may be key to the continued development of successful interventions targeting negative attitudes toward the mentally ill.

The scientific literature has identified the Protestant Work Ethic (PWE) worldview (a meritocratic belief system in which individuals expect that good things come to those who work hard and take responsibility for problems and difficulties) as a key correlate of stigma toward the mentally ill (e.g., Rusch et al., 2010a). Research suggests that a reduction in PWE values may result in a decline in mental illness stigma (Norman et al., 2008).

The present study attempted to experimentally manipulate participants' PWE worldview in order to examine the effect of PWE orientation on explicit and implicit mental illness stigma. It is thus the first study, as far as could be discerned, to attempt to establish a causal link between PWE values and stigma toward the mentally ill. In addition, the present study expanded on the existing scientific literature through the utilization of a larger sample as well a wider array of measures.

Evaluation of Hypotheses

To summarize the study design, participants were randomly assigned to experimental groups intended to produce either High PWE or Low PWE. Depending on

the condition to which they were assigned, participants read either a High PWE or Low PWE-themed political speech. They were then asked to summarize the speech as a method to increase the salience of the manipulation. Next, participants completed explicit and implicit measures of attitudes toward mental illness.

Three a priori hypotheses were evaluated. It was hypothesized that individuals who had received an experimental manipulation that sought to increase PWE values would have stronger implicit mental illness stigma than individuals who received a manipulation that sought to decrease PWE values. Similarly, it was predicted that individuals receiving the manipulation to increase PWE would report stronger explicit mental illness stigma than those receiving the manipulation to reduce PWE. Finally, it was hypothesized that the familiarity of participants with mental illness would be negatively related to their implicit and explicit mental illness stigma.

PWE Group and Implicit Mental Illness Stigma. The manipulation was ineffective in changing PWE values and, thus, could not support the hypotheses. Due to the ineffectiveness of the manipulation, the relationship between PWE and implicit mental illness stigma was examined post-hoc. A multiple regression revealed no significant predictive relationship between PWE scores and BIAT scores. This indicated that participants' PWE orientation did not predict their level of implicit mental illness stigma. This was surprising given the expectation that PWE would influence mental illness stigma on the implicit level. Given the paucity of research that directly considers implicit mental illness stigma, it is difficult to comprehensively explore the reasons for the lack of a relationship between PWE and implicit mental illness stigma. However, the limited amount of prior research may provide some insight.

Rusch and colleagues (2010a) found a relationship between PWE values and implicit attitudes only for participants without mental illness. Similarly, Quinn and Crocker (1999) observed a connection between PWE and stigma, but only for the group with psychiatric distress. It is possible, then, that PWE affects implicit mental illness stigma only for those who are considered to have mental illness. Data that included the degree of diagnostic specificity necessary for an analysis of this possibility was not collected by the present study. Treatment history was the only covariate for implicit mental illness stigma. Interestingly, psychiatric distress and contact with mental illness were not significantly related to implicit mental illness stigma.

PWE Group and Explicit Mental Illness Stigma. Multiple regression analyses revealed that PWE predicted several dimensions of explicit mental illness stigma. Specifically, PWE values predicted the degree to which participants saw individuals with mental illness as responsible for their condition, the perceived dangerousness of the mentally ill, and the degree to which participants endorsed increased social distance. Additionally, PWE predicted the degree to which participants agreed with common stereotypes (e.g., "they are dirty") about individuals with mental illness.

PWE is noted to have a nuanced effect on explicit stigma (e.g., Rosenthal et al., 2011), but it appears to have a relatively broad impact on explicit mental illness stigma. The findings from the present research are consistent with that of Rusch and colleagues (2010a) who also found a connection between PWE and the Dangerousness and Stereotype Agreement scales. Quinn and Crocker (1999) noted a relationship between PWE and explicit dislike of individuals with a stigmatizing condition (obesity).

Familiarity with Mental Illness and Stigma. Findings showed that lifetime contact with mental illness was negatively related to explicit, but not implicit, mental illness stigma. This indicated that participants with greater levels of familiarity with mental illness tended to endorse a lower degree of explicit stigma toward mental illness. Specifically, contact had an inverse relationship with the perceived dangerousness of, and the unwillingness to help, the mentally ill as well as the degree to which participants agreed with common stereotypes about the mentally ill. This is consistent with the work of Corrigan who has repeatedly shown a connection between contact with mental illness and stigma reduction (e.g., Corrigan & O'Shaughnessy, 2007; Corrigan & Penn, 1999; Kunda & Oleson, 1997).

Implications of the Findings

The findings of this study have a number of potential implications for the way in which mental illness stigma is approached.

The Effect of Protestant Work Ethic Values on Explicit Mental Illness Stigma. Findings of a consistent relationship between PWE values and conscious negative attitudes toward mental illness are very consistent with those of the existing literature. Individuals who strongly identify with PWE values seem to be more likely to see the mentally ill as dangerous, endorse social distance, and agree with common stereotypes of individuals with mental illness.

Most of the existing mental illness stigma interventions focus on education and contact (see Dalky, 2012), with a few exceptions (e.g., advocacy and Acceptance and Commitment Therapy; Corrigan & O'Shaughnessy, 2007; Masuda et al., 2007). These interventions are broadly effective. Further development and implementation of these

programs (particularly those involving contact) are important (Dalky, 2012). In line with Corrigan (2004a), the integration of values that run counter to the PWE (e.g., unity, willingness to help, open-mindedness, and acceptance) may supplement these interventions in a way that may be more lasting and accessible. Given the findings of the present study, this may be particularly true in the case of individuals who have prejudice toward the mentally ill but who also have some degree of knowledge and familiarity with mental illness. Values of unity and acceptance could be readily integrated into didactic interventions.

Changing Implicit Mental Illness Stigma. General implicit mental illness stigma (observed through the findings on the Good/Bad BIAT) was identified by the present research. Interestingly, and consistent with the work of Rusch and colleagues (2010a) and Teachman and colleagues (2006), only two covariates were identified. For the Good/Bad BIAT, psychiatric treatment history was a negative correlate, indicating that treatment history was associated with greater implicit mental illness stigma. For the Innocent/Blameworthy BIAT, the Responsibility AQ scale was a negative correlate, indicating that higher scores on the Responsibility scale were associated with greater implicit blame. The relationship between the Innocent/Blameworthy BIAT and the Responsibility AQ scale makes conceptual sense. On the other hand, the positive relationship between the Good/Bad BIAT and psychiatric treatment history was counterintuitive.

This relationship between psychiatric treatment and general implicit stigma is one of the more fascinating findings of the present research. Statistics reveal that the correlation cannot be explained by psychiatric distress or by familiarity with mental

illness. Although it is the opposite of what one might expect, it appears as though psychiatric treatment may lead to a greater degree of general, unconscious stigma toward mental illness. Of note, the mode (e.g., psychopharmacological versus psychotherapeutic) and length of treatment likely play a large role in whether implicit attitudes are reduced. Given that the type, length, and intensity of treatment history were not assessed, these factors could not be evaluated with the current data. There are a number of potential reasons for the relationship between treatment history and implicit mental illness stigma.

First, implicit attitudes are difficult, and may take longer, to change than explicit attitudes (Saporito, Ryan, & Teachman, 2011). Second, treatment may help to internalize the "mentally ill" identity. Given there may not be a protective in-group bias (e.g., Teachman et al., 2006), this internalization may increase self-stigma and intensify identification with labels. Third, treatment might increase affective reactions to psychiatric symptoms. This increased emotionality would tend to affect attitudes more on the implicit, than explicit, levels (Link et al., 2004). Fourth, to speculate, the relationship between treatment and implicit mental illness stigma may be due to individual differences between people who seek treatment and those who do not seek treatment. Individual differences such as personality factors and emotional hardiness may affect how an individual responds to psychiatric distress and, thus, whether they pursue treatment. These individual differences may also determine the degree to which mental illness stigma is internalized. Regardless of potential reasons, the connection between treatment and higher levels of implicit mental illness stigma should be further examined.

As implicit stigma was related to familiarity with mental illness, one might question the utility of traditional stigma interventions (e.g., contact, education) in

reducing implicit bias toward the mentally ill. However, research suggests that implicit negative attitudes about the mentally ill may persist even amongst mental health professionals despite their experience and education (Stuber, Rocha, Christian, & Link, 2014). Further exploration into the nature of implicit mental illness stigma change is needed.

The Value of Familiarity with Mental Illness. In vivo exposure to mental illness is an important factor in mitigating mental illness stigma. In the present study, the negative relationship between contact with the mentally ill and explicit mental illness stigma remained consistent even when controlling for PWE values. This suggests that, even for individuals with worldviews that predispose them to be biased against the mentally ill, exposure should be a key element in interventions designed to reduce stigma. While contact and education may or may not be effective in reducing implicit mental illness stigma, these interventions are likely quite effective in reducing explicit mental illness stigma. Future interventions for stigma reduction should have a component of exposure and/or education.

Limitations

There were several limitations to this study. First, there were some concerns with regard to the internal consistency of the Responsibility and Anger at Condition scales of the AQ. Second, the manipulation was unsuccessful and post-hoc analyses were necessitated to examine the hypotheses. Third, the internal validity of the Political Speech Questionnaire is questionable. Fourth, the point at which the manipulation check (the PWE Scale) was administered may have been too long after the manipulation to properly capture the effect. Finally, the sample was limiting in that participants had a relatively

high level of current psychiatric distress, were mainly women, were of a young age, and were university-level students. Given their enrollment in a Jesuit institution, it is possible that the participants were somewhat more religious than the general population, although no data was collected to evaluate this possibility.

Potential Limitations of the AQ and the BIATs. The AQ was noted to have a number of potentially limiting attributes. Most notably, the internal consistency of two of the AQ scales (Responsibility and Anger at Condition) was less than desirable. The questionable internal consistency may have limited the reliability of these scales, reducing the power of the regression analyses. This may explain why PWE scores were just shy of a being a significant predictor of the Responsibility scale. Due to the importance of these scales to the present research, Responsibility and Anger at Condition scale scores were included in analyses. However, their inclusion may represent a limiting factor.

The Implicit Association Test (IAT) has been subject to frequent critical examination. Several potential points of criticism include the possibility that the IAT effect is due to salience asymmetry, the potential for faking, and difficulties in predicting subsequent behavior. Additionally, research utilizing the IAT methodology toward examining mental illness stigma is limited, although the IAT has been used to measure mental illness stigma much more frequently than other implicit stigma tools.

Several studies have suggested that the IAT effect may reflect category salience rather than true preference. Rothermund and Wentura (2001) presented the *figure-ground* model, which states that IAT effects are due directly to differences in salience between the task categories. Salience asymmetry is based on differences in familiarity or valence

between IAT categories and are manifested through "attentional dwell time" (Rothermund & Wentura, 2004). Using a modified version of a Young/Old IAT in which words and nonwords were used as attribute categories instead of valenced adjectives, expected differences were still found (Rothermund et al., 2004) consistent with prior research (Rothermund et al., 2001). A similar study used a modified Flower/Insect IAT to examine the role of category familiarity in the IAT effect (Kinoshita & Peek-O'Leary, 2006). Evidence suggested that IAT effects might be due to either valence or familiarity. These findings are consistent with the figure-ground model.

Greenwald, Nosek, Banaji, and Klauer (2005) agreed that salience asymmetry could affect IAT scores, but argued that the "nominal features" (i.e., features activated by the names typically associated with categories, such as "age" when contrasting young and old) are the driving force of the IAT effect. Greenwald and colleagues also noted a number of empirical studies that support the nominal features interpretation of the IAT effect as opposed to the salience asymmetry interpretation (Greenwald et al., 2005).

Some limited evidence suggests that it may be possible to misrepresent implicit attitudes on the IAT. Kim (2003) presented findings that completers of the IAT could manipulate their IAT scores, but only if completers were provided with specific instructions (e.g., responding more slowly to a certain category) on how to do so.

The degree to which IAT scores can predict future behavior is presently unclear. A growing amount of research has examined the IAT using the "known groups" validity approach, in order to gauge the association between IAT scores and behavior (Fazio et al., 2003). While a number of studies have provided support for the IAT in predicting known behavior, some evidence suggests that the IAT is limited in this regard. One study

indicated that IAT scores show no predictive value of participants' subsequent choice of whether to eat apples or candy bars (Karpinski & Hilton, 2001). It is possible that IAT measures of self-esteem may be more predictive of subsequent behavior (Karpinski & Hilton, 2001).

There were indications from the present study that suggest the BIAT was effective in accurately measuring implicit attitudes. First, BIAT scores for the full sample were as expected, with physical illness favored over mental illness in terms of general preference (Good/Bad BIAT) as well as for (less significant) implicit attributions toward the mentally ill (Innocent/Guilty and Competent/Helpless). Second, the significant relationship between Innocent/Guilty BIAT scores and Responsibility AQ scale scores provided some additional convergent validity for the BIAT measures. The correlation between the Innocent/Guilty BIAT and Responsibility AQ scale scores were as would be anticipated (expected range of $r = 0.1$-0.3).

Manipulation, Political Speech Questionnaire, and Manipulation Check. Although the initial design was experimental, the manipulation of PWE values was ultimately unsuccessful. As such, the relationships between PWE and mental illness stigma were evaluated post-hoc, thus the connection between the PWE worldview and mental illness stigma cannot be considered casual despite the strength and breadth of the relationship. There were a number of factors to evaluate when considering why the manipulation failed. The most likely explanation is that the manipulation did not have the necessary salience to elicit the intended increase in PWE identification or, at least, not for the desired amount of time. That the political speeches were based on a State of the Union Address delivered by Ronald Reagan in the 1980s may have limited the degree to

which participants (who were all born in the 1990s) identified with the content. Additionally, the manipulation itself was administered to a sample of female college students with weight concerns and originally designed for that purpose. Since the present sample was not known to have these weight concerns, this may explain a portion of why the manipulation did not succeed. The nature of the administration (self-administered, in a group setting, by computer, visual only) of the manipulation may have also been problematic in that it could have led to inconsistencies in task comprehension and a greater chance of inattention. Administration individually in a manner in which experimenters could be certain that participants received the manipulation as intended (such as by video) may have improved the efficacy of the manipulation. It is also possible that the manipulation check was unsuccessful, despite having multiple components.

The Speech Rating Questionnaire was designed to evaluate, and increase, the salience of the manipulation as well as to serve as a manipulation check. While designed to evaluate the salience of different aspects of participants' assigned speech (overall power, power of the message, and power of the content of the speech), each of the three rating questions had comparable means and relatively limited variability across the sample. These findings provided some evidence that the measure did an insufficient job in evaluating the true salience of the speech manipulation. Thus, the measure may have been limited as a manipulation check.

The PWE Scale was administered at the end of the protocol in order to avoid any contaminating effect that earlier administration might cause. Any temporary effect on PWE values caused by the manipulation may have extinguished by the time participants completed the PWE Scale. Unfortunately, the length of time for which PWE

manipulations remain effective is not clear given the lack of existing research. The creation of further methods by which to manipulate the PWE may be necessary for future experimental investigations of the PWE.

Sample Limitations. There were a number of concerns with the sample. First, there was a relatively high level of current psychiatric distress when compared with national non-clinical norms (see Table 2 for mean scores). Although one might expect a slightly higher level of psychiatric distress among psychology students, the number of participants reporting clinical levels of symptoms was notable. Second, there were a far greater number of female participants than male participants. There were a number of significant differences between how men and women responded on the explicit measures. While these differences had no effect on the utility of the manipulation (there were no gender composition differences between groups), this remains an important limitation when considering how well the data generalize. Individuals in the sample were also traditional college-aged, with the oldest participant being twenty-four, further limiting the generalizability of the findings. Given their enrollment in a Jesuit institution, it is possible that the participants were somewhat more religious than the general population, although no data was collected to evaluate this possibility. Further, participants' background in psychology might have affected how participants responded. To speculate, participants with a psychology background are likely more progressive with their views toward mental illness, which would tend to temper explicit mental illness stigma. Additionally, psychology students may be more motivated to engage in impression management (i.e., "I am not supposed to endorse stigma toward mental illness"). These factors further complicate generalizability of the data.

Future Research

Future research should seek to expand on the current study as well as address the noted shortcomings. Of primary importance is the continued effort to evaluate a causal link between the PWE worldview and mental illness stigma. Replication of this research with a broader, more representative, sample would be beneficial. Establishing a standard method for evaluating PWE (and meritocratic worldviews in general) would be very valuable toward continued exploration of the relationship between PWE and stigma toward mental illness. Evaluating the PWE worldview within the context of stigma reduction interventions would be intriguing. Given the consistent predictive connection between PWE and desired avoidance of the mentally ill, social distance measures may have continued utility in future research as brief instruments. Finally, the IAT methodology should continue to be evaluated within the context of attitudes about mental illness.

Toward the goal of creating more effective interventions aimed at reducing mental illness stigma, it is important that the relationship between the PWE worldview and mental illness stigma be explored in an experimental fashion. Key to achieving this, of course, is the successful development of an experimental manipulation of PWE values. The political speech manipulation has been used successfully in prior research, but was ineffective in the current study. Addressing some of the potential limitations of the manipulation noted above may be helpful. If the political speech manipulation design is utilized in future studies, additional steps should be taken to make sure that the manipulation is delivered by an experimenter in a way that is consistent for each participant. Additionally, the speeches used as manipulations should be based on a more

modern speech rather than one from decades past. Experimental methodologies utilizing vignettes may be another option for manipulating PWE values. It will also be important for researchers to continue to develop ways to identify and modify implicit attitudes toward mental illness.

The present research would benefit greatly from being replicated with a more representative sample. Greater variability in demographic factors (e.g., age, gender, race/ethnicity, SES, and religiosity) as well an overall reduction in sample psychopathology would substantially increase the generalizability of findings. Recruiting participants from outside a university setting would be key.

Future research should also focus on the practical application of these findings toward intervening in the process of mental illness stigma and the mitigation of the effects of discrimination toward and self-stigmatization of the mentally ill. Contact with the mentally ill (particularly those individuals who are high functioning) has been consistently identified in the literature as a method to reduce stigma. This study adds to that literature. Integrating and encouraging greater contact with high functioning individuals with mental illness may be useful as a therapeutic technique in order to reduce self-stigma. Additionally, increasing awareness and contact with these individuals for people without mental illness could be helpful toward reducing mental illness stigma in the general public. The positive relationship between implicit mental illness stigma and psychiatric treatment history should be explored in depth.

IAT (and BIAT) measures should continue to be scrutinized, particularly within the realm of attitudes about mental illness. An overall effect for each of the BIAT measures was found, indicating that the overall sample performed as expected. However,

there was only one relationship between the implicit attitude data and other scores (the aforementioned correlation between the Innocent/Guilty BIAT and the Responsibility AQ scale). It was expected that there would be a broad, but small, positive relationship (approximately $r = 0.19$ as described by Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005) between the BIAT data and the AQ and SSMIS data, particularly when accounting for covariates (consistent with Rusch et al., 2010b, Greenwald et al., 1998, & Greenwald et al., 2001), but this was not the case.

Conclusion

The connection between the PWE worldview and mental illness stigma was considered in depth. As was expected, there was a strong relationship between PWE values and conscious mental illness stigma. No relationship was found between PWE values and implicit, unconscious stigma. Level of contact with the mentally ill has a reliable, negative relationship with explicit mental illness stigma, which is consistent with a body of research identifying contact as an important part of stigma reduction. Emphasizing values of unity, acceptance, and a willingness to help and deemphasizing PWE-related values may be a useful extension to current methods of stigma intervention. The present study would benefit greatly from replication with an improved experimental manipulation and with a more generalizable sample of participants. Additionally, the connection between psychiatric treatment and implicit mental illness stigma should be considered further. Continued progress toward understanding the effects of meritocratic worldviews on mental illness stigma may be important toward improving the future for those affected by mental illness.

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APPENDIX A

"Political Speech" Experimental Manipulation and Questionnaire

High Protestant Work Ethic Speech

America is a country where people can stand proud on their accomplishments. A place where people are free to live and to achieve to their highest potential. Self-reliance and self-discipline are the cornerstones of this country. Perhaps one of the most important beliefs we can hold is the unwavering notion that each person controls his or her own outcomes. We do not blame others for our failures. Instead each person is responsible for his or her own rewards and punishments. Those who are willing to work hard towards their goals have an excellent chance of succeeding. Only the lazy and the unwilling will be unable to meet the goals they set out for themselves. All who strive for perfection should be commended. No persons will blame others for their problems. Instead, we will all accept the responsibility for our flaws as we also accept the responsibility and praise for our accomplishments. Only in these ways can we assert that we have truly endeavored to be our personal best.

Low Protestant Work Ethic Speech

America is a country in which we strive to combine our differences into unity. It is a country that is not only rich in opportunities for the individual but also for families and vibrant neighborhoods. A country whose divergent but harmonizing communities are a reflection of deeper community values. The most exciting revolution ever known to humankind began with these three simple words: "We the People. . ." the revolutionary notion that the people grant government its rights, and not the other way around. Just as those who created this Republic pledged to each other their lives, their fortunes, and their sacred honor, so, too, America's leaders today must pledge to each other that we will keep foremost in our hearts and minds not what is best for ourselves or for our party, but what is best for America. In the spirit of Jefferson, let us affirm that, we must work as though there are no Republicans, no Democrats, just Americans. Yes we will have our differences, but let us always remember what unites us far outweighs whatever divides us.

"Political Speech" Questionnaire

Instructions: Please answer the following questions about the speech you just read.

	Extremely Weak			Neither Weak nor Powerful			Extremely Powerful
I rate the overall power of the speech as	1	2	3	4	5	6	7
I consider the message of the speech to be	1	2	3	4	5	6	7
I consider the content of the speech to be	1	2	3	4	5	6	7

In a **single sentence**, please summarize the message of the speech. Please write only one sentence.

_____
_____
_____
_____
_____

APPENDIX B

Attribution Questionnaire

Harry is a 30 year-old single man with schizophrenia. Sometimes he hears voices and becomes upset. 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. Indicate the number of the best answer to each question.

	Not at all								Very much
I would think that Harry's present condition is his own fault.	1	2	3	4	5	6	7	8	9
Harry must have done something that has caused him to be in his present condition.	1	2	3	4	5	6	7	8	9
Harry should not be held responsible for his present condition.	1	2	3	4	5	6	7	8	9
How much control do you think Harry has over his present condition?	1	2	3	4	5	6	7	8	9
I would feel sorry for Harry.	1	2	3	4	5	6	7	8	9
How much sympathy would you feel for Harry?	1	2	3	4	5	6	7	8	9
I would feel bad for Harry.	1	2	3	4	5	6	7	8	9

How angry would you feel at Harry?	1	2	3	4	5	6	7	8	9
I would be mad at Harry.	1	2	3	4	5	6	7	8	9
I would feel aggravated by Harry.	1	2	3	4	5	6	7	8	9
Harry's present condition would anger me.	1	2	3	4	5	6	7	8	9
Harry's condition would upset me.	1	2	3	4	5	6	7	8	9
Harry would be a danger to others.	1	2	3	4	5	6	7	8	9
Harry would be a potential danger to anyone he encounters.	1	2	3	4	5	6	7	8	9
If I had a friend dating Harry, I would feel scared for her.	1	2	3	4	5	6	7	8	9
I would feel threatened by Harry.	1	2	3	4	5	6	7	8	9
I would fear Harry.	1	2	3	4	5	6	7	8	9
How frightened of Harry would you feel?	1	2	3	4	5	6	7	8	9
I would feel scared being around Harry.	1	2	3	4	5	6	7	8	9

I would be willing to help Harry	1	2	3	4	5	6	7	8	9
I would be willing to talk to Harry about his present condition.	1	2	3	4	5	6	7	8	9
Would you want to help Harry?	1	2	3	4	5	6	7	8	9
I think Harry should be forced to take medication to improve his present condition.	1	2	3	4	5	6	7	8	9
Society should force Harry to seek treatment.	1	2	3	4	5	6	7	8	9
Harry should be forced to seek counseling.	1	2	3	4	5	6	7	8	9
If I were in charge of Harry's medication, I would give him the option of discontinuing it.	1	2	3	4	5	6	7	8	9
I would not want to be around Harry.	1	2	3	4	5	6	7	8	9
If I were a landlord, I would rent an apartment to Harry.	1	2	3	4	5	6	7	8	9

If you worked with Harry, how willing would you be to be in a work-group with Harry?	1	2	3	4	5	6	7	8	9
I would share a carpool with Harry every day.	1	2	3	4	5	6	7	8	9

APPENDIX C

Self-Stigma of Mental Illness Stereotype Awareness and Stereotype Agreement Scales

Instructions: There are many attitudes about mental illness. We would like to know what you think most of the public as a whole (or most people) believe about these attitudes. Please answer using the scale above the items.

I think the public believes…

	I strongly Disagree				Neither agree nor disagree				I strongly Agree
most persons with mental illness cannot be trusted.	1	2	3	4	5	6	7	8	9
most persons with mental illness are disgusting.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unable to get or keep a regular job.	1	2	3	4	5	6	7	8	9
most persons with mental illness are dirty and unkempt.	1	2	3	4	5	6	7	8	9
most persons with mental illness are to blame for their problems.	1	2	3	4	5	6	7	8	9

most persons with mental illness are below average in intelligence.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unpredictable.	1	2	3	4	5	6	7	8	9
most persons with mental illness will not recover or get better.	1	2	3	4	5	6	7	8	9
most persons with mental illness are dangerous.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unable to take care of themselves.	1	2	3	4	5	6	7	8	9

Instructions: Now answer the next 10 items using the agreement scale for you **own** beliefs.

I think…

	I strongly Disagree				Neither agree nor disagree				I strongly Agree
most persons with mental illness are to blame for their problems.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unpredictable.	1	2	3	4	5	6	7	8	9
most persons with mental illness will not recover or get better.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unable to get or keep a regular job.	1	2	3	4	5	6	7	8	9
most persons with mental illness are dirty and unkempt.	1	2	3	4	5	6	7	8	9
most persons with mental illness are dangerous.	1	2	3	4	5	6	7	8	9

most persons with mental illness cannot be trusted.	1	2	3	4	5	6	7	8	9
most persons with mental illness are below average in intelligence.	1	2	3	4	5	6	7	8	9
most persons with mental illness are unable to take care of themselves.	1	2	3	4	5	6	7	8	9
most persons with mental illness are disgusting.	1	2	3	4	5	6	7	8	9

APPENDIX D

BIAT Stimuli

Category	*Stimulus 1*	*Stimulus 2*	*Stimulus 3*	*Stimulus 4*
Mental Disorder	Depression	Schizophrenia	Bipolar Disorder	Obsessive-Compulsive Disorder
Physical Disorder	Diabetes	Appendicitis	Cerebral Palsy	Multiple Sclerosis
Good	Excellent	Joyful	Wonderful	Great
Bad	Horrible	Nasty	Terrible	Awful
Innocent	Faultless	Virtuous	Innocent	Guiltless
Blameworthy	Culpable	At Fault	Guilty	Blameworthy
Competent	Capable	Qualified	Competent	Able
Helpless	Incompetent	Helpless	Incapable	Unable

APPENDIX E

Protestant Ethic Scale

Instructions: Please rate the following statements in terms of your level of agreement.

	I disagree strongly						I agree strongly
Most people spend too much time in unprofitable amusements.	1	2	3	4	5	6	7
Our society would have fewer problems if people had less leisure time.	1	2	3	4	5	6	7
Money acquired easily is usually spent unwisely.	1	2	3	4	5	6	7
Most people who don't succeed in life are just plain lazy.	1	2	3	4	5	6	7
Anyone who is willing and able to work hard has a good chance of succeeding.	1	2	3	4	5	6	7
People who fail at a job have usually not tried hard enough.	1	2	3	4	5	6	7
Life would have very little meaning if we never had to suffer.	1	2	3	4	5	6	7

The person who can approach an unpleasant task with enthusiasm is the person who gets ahead.	1	2	3	4	5	6	7
If people work hard enough they are likely to make a good life for themselves.	1	2	3	4	5	6	7
I feel uneasy when there is little work for me to do.	1	2	3	4	5	6	7
A distaste for hard work usually reflects a weakness of character.	1	2	3	4	5	6	7

APPENDIX F

Level of Contact Report

Instructions: Please read each of the following statements carefully. After you have read all the statements below, place a check by the statements that best depict your exposure to persons with a severe mental illness.

✓	Statements (Rank)
□	I have watched a movie or television show in which a character depicted a person with mental illness. (3)
□	My job involves providing services/treatment for persons with a severe mental illness. (8)
□	I have observed, in passing, a person I believe may have had a severe mental illness. (2)
□	I have observed persons with a severe mental illness on a frequent basis. (5)
□	I have a severe mental illness. (12)
□	I have worked with a person who had a severe mental illness at my place of employment. (6)
□	I have never observed a person that I was aware had a severe mental illness. (1)
□	My job includes providing services to persons with a severe mental illness. (7)
□	A friend of the family has a severe mental illness. (9)
□	I have a relative with a severe mental illness. (10)
□	I have watched a documentary on the television about severe mental illness. (4)
□	I live with a person who has a severe mental illness. (11)