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Stigmatization of Iraq veterans with PTSD, depression, or chronic back pain

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STIGMATIZATION OF IRAQ VETERANS
WITH PTSD, DEPRESSION, OR CHRONIC BACK PAIN

A Thesis

Presented to

The Faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Melissa Daoud

May 2009

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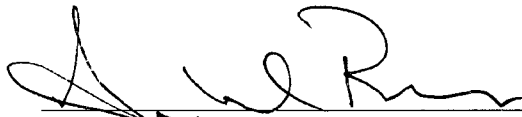
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STIGMATIZATION OF IRAQ VETERANS
WITH PTSD, DEPRESSION, OR CHRONIC BACK PAIN

by
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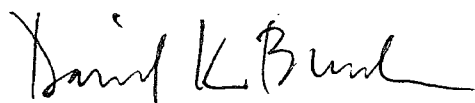


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ABSTRACT

STIGMATIZATION OF IRAQ VETERANS WITH PTSD, DEPRESSION, OR CHRONIC BACK PAIN

by Melissa Daoud

Stigmatization has been identified as a barrier to care for veterans with mental illness. This vignette study examined the degree of stigmatization ascribed to male and female Iraq War veterans diagnosed with PTSD compared to those with depression or chronic back pain. A convenience sample of 203 undergraduates was randomly assigned to one of six vignettes. Stigma was measured using social distance and perceived dangerousness. Depression and PTSD were associated with more social distance than chronic back pain. Male Iraq veterans were perceived as more dangerous than females. There was an interaction between participant's gender and vignette diagnosis, with males assigning greater social distance when the diagnosis of PTSD was depicted and female participants assigning greater social distance when the diagnosis of depression was depicted. These findings are important as they could help mental health professionals develop more efficient antistigma programs in active duty, veteran, and community populations.

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Introduction

Since the inception of Operation Enduring Freedom in 2001, the United States has deployed over 1.64 million troops to Afghanistan and Iraq as a means to fight the global war on terrorism (Tanielian, Jaycox, Adamson, & Metscher, 2008). These military operations are unique in that they have resulted in fewer casualties and physically wounded soldiers as compared to previous U.S. wars, such as Vietnam and Korea (Tanielian, Jaycox, Adamson, et al., 2008). Another distinctive aspect of these wars is that soldiers are experiencing what has been coined “invisible wounds,” such as mental illness and cognitive impairment as a result of combat experience (Tanielian, Jaycox, Adamson, et al., 2008).

Current research indicates that of all the veterans returning from Iraq (Operation Iraqi Freedom) and Afghanistan (Operation Enduring Freedom), 21.8% meet the diagnostic criterion for post-traumatic stress disorder (PTSD), 17.7% meet the diagnostic criterion for depression, and 36.9% meet the diagnostic criterion for other mental health conditions (Seal, Metzler, Gima, Bertenthal, Maguen, & Marmar, in press); however, only 23-40 percent are seeking treatment for these conditions (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004). One explanation for the lack of health-seeking is veterans’ fear of the social stigma associated with a psychiatric diagnosis (Greene-Shorridge, Britt, & Castro, 2007). Stigmatization of mental illness is real and can have significant negative consequences that could hinder a soldier’s ability to re-integrate into civilian life. Mental illness stigma has been associated with problems obtaining housing, health care, and employment (Corrigan & Kleinlein, 2005), as well as problems in

relationships with friends and family (Tanielian, Jaycox, Schell, Marshall, & Vaiana, 2008). A veteran with a psychiatric diagnosis such as PTSD or depression may experience discrimination, as there is a long history of stereotyping and prejudice towards those with mental illness (Corrigan & Kleinlein, 2005). If the veteran is cognizant of mental illness stigma, self-stigmatization may occur and negatively impact self-esteem and subsequent health seeking behavior (Greene-Shortridge, Britt, & Castro, 2007). Self-stigma exists when a person has negative beliefs about themselves due to internalizing the stigmatizing attitudes of society (Barney, Griffiths, Jorm, and Christensen, 2006).

The examination of stigma as a barrier to care is very important because when veterans do not seek needed care for mental illness there are considerable long-term consequences. If left untreated mental health conditions such as PTSD and depression can get worse over time (Tanielian, Jaycox, Schell, et al., 2008). Additionally, being diagnosed with either of these conditions increases the likelihood of comorbid psychiatric diagnoses, homelessness, and suicidality (Tanielian, Jaycox, Schell, et al., 2008). Untreated mental health conditions can also take a toll on physical health, which may result in death (Tanielian, Jaycox, Schell, et al., 2008). Veterans may lose their jobs as a result of being less productive and missing work days, which are common symptoms associated with mental illness (Tanielian, Jaycox, Schell, et al., 2008). Untreated mental illness can destroy personal relationships such as marriages, family and friendships (Tanielian, Jaycox, Schell, et al., 2008). Further, untreated mental illness can impact one's ability to parent, and puts children at an increased risk of inheriting their parent's mental illness (Tanielian, Jaycox, Schell, et al., 2008)

Current research indicates that soldiers deployed to Iraq are at a greater risk for PTSD as compared with Afghanistan veterans (Hoge et al., 2004; Tanielian, Jaycox, Schell, et al., 2008), which is why this study focused on Iraq veterans. Considering the large number of veterans returning from war, the potential costs of untreated mental health conditions, and the elevated risk of Iraq veterans being diagnosed with PTSD, it is important to understand how they are perceived in the general population. Although mental illness stigmatization has been well documented in psychology research, very few studies to date have examined social attitudes toward PTSD in the general population. Because the literature on stigmatization of PTSD is limited, a discussion of mental illness stigma is needed to better understand the breadth of this problem.

Stigma

Every society has standards about what is considered normal behavior; these standards are used by members of society to classify people as “normal.” Those members of society who violate these standards are often labeled and subsequently stigmatized. In this context stigma is defined as a social construction which involves the identification of a distinctive, socially undesirable characteristic in an individual that causes the stigmatized person to be marginalized (Dovidio, Major, & Crocker, 2000). Different types of stigma exist and fall into one of three categories. One type of stigma involves physical deformity, such as a disability (Goffman, 1963). Another type is tribal stigma which involves race, religion, national or political affiliation (Goffman, 1963). A behavioral stigma occurs when a person is stigmatized because his or her behavior violates societal norms, and is typically attributed to a character flaw; mental illness is

considered to fall into this category (Goffman, 1963). This allows society to consider those with mental illness less than human, and various types of discrimination follow (Goffman, 1963). However depending upon the model of psychopathology used, one could argue that mental illness is a disability. The biological or medical model tends to categorize mental illness as a disability whereas a psychosocial model tends to characterize mental illness as a character flaw.

One of the major controversies in the research on mental illness stigma is whether stigmatization is due to the behavior of the mentally ill (behavior hypothesis) or the affixed psychiatric label (labeling theory) (Link, Cullen, Frank, & Wozniak, 1987). The development of the Social Distance scale by Link and colleagues (1987) lead to numerous studies examining the desired social distance to specific mental illnesses and mental illness in general.

In their study Link and colleagues (1987) randomly assigned participants to one of six vignettes. The independent variables were behavior (no objectionable behavior, mildly objectionable behavior, severely objectionable behavior) and label of the clinical vignette (mental hospitalization, hospitalization for back problems), and stigmatization was the dependent variable as operationalized by social distance and perceived dangerousness. The results indicated that perceived dangerousness and social distance were positively correlated; those participants who perceived the depicted person as dangerous reported a greater desired social distance, and those who didn't perceive the depicted person as dangerous reported less desired social distance (Link et al., 1987). This finding suggests that there is an association between perceived dangerousness and

social distance, and the consideration of both perceived dangerousness and social distance are important to consider in the social evaluation of people with mental illness.

Research using the social distance and perceived dangerousness scales has also been used to evaluate stigmatization with respect to specific psychiatric conditions. For example, Angermeyer, Beck, DiplSoz, and Matschinger (2003) presented participants with unlabeled clinical vignettes describing a person with schizophrenia. Participants were then asked how they would label the problem depicted in the vignette, to identify the cause of the illness, prognosis, and indicate perceived dangerousness and desired social distance. Consistent with Link et al. (1987), the greatest predictor of stigmatization or high scores on the social distance measure was a participant's perception of perceived dangerousness; the more dangerous the participant perceived the person described in the vignette the greater social distance participants desired (Angermeyer et al., 2003). Reported scores about perceived dangerousness were significantly correlated with scores on social distance, and perceived dangerousness was found to be a mediator of social distance. Additionally, those who identified the person depicted in the vignette as mentally ill, those who blamed the individual for their illness, those who anticipated a poor prognosis, and those who believed their were biological factors that caused the disease reported a stronger desire for social distance (Angermeyer et al., 2003).

In summary, previous research has found perceived dangerousness to be an important variable in the stigmatization of mental illness, with some studies suggesting that perceived dangerousness may be a mediator of social distance. Iraq veterans with a

medical or psychiatric diagnosis may be perceived as dangerous due to these labels, because they are soldiers, or because they are soldiers with psychiatric or medical diagnoses. For these reasons our study included a question about perceived dangerousness as a measure of stigmatization.

Stigma of mental illness. The history of mental illness stigma is well documented and considered common knowledge in psychology and psychiatry. Current research has found that among the general population, prejudice toward the mentally ill exists to this day (Angermeyer & Matschinger, 2003; Corrigan & Kleinlein, 2005). Mental illness labels evoke responses such as fear and hatred, which leads people to increase social distance and minimize contact with those possessing such a label (Corrigan & Kleinlein, 2005).

One line of research on mental illness stigma has examined the impact of psychiatric labeling and its relationship to stigmatization. According to Angermeyer and Matschinger (2003), labeling mental health problems as illnesses can be seen in both positive and negative ways. In the positive sense, labeling allows family and friends to better understand and help their loved one (Angermeyer and Matschinger, 2003). Additionally it has been argued labeling mental health problems as an illness allows those afflicted “patient rights,” subsequently reducing social stigmatization and self-stigmatization (Angermeyer and Matschinger, 2003). This is beneficial to the patient because it allows him or her to address the problem with social support, the right frame of mind, and fosters a supportive environment increasing the likelihood of treatment success.

On the other hand, labeling theory views psychiatric labeling in a negative light, arguing that the label rouses previously existing stereotypes increasing the likelihood of prejudice (Angermeyer & Matschinger, 2003; Link et al., 1987). In their widely cited study, Link and colleagues (1987) discussed the relevance of labeling mental illness and its relationship to stigmatization. Specifically, Link and colleagues supported the position of labeling theory, arguing that psychiatric labeling impacts how those labeled are treated by activating preconceived ideas the labeler has concerning the labeled. The triggering of such ideas, beliefs, and emotions impacts how the labeled person is perceived and treated. Thus, Link and colleagues (1987) claimed that if the psychiatric label did not exist, such preconceived notions would not come into consideration in the social evaluation of people.

A major line of research on mental illness stigma has investigated how stigmatization influences help-seeking. Link, Phelan, Bresnahan, Stueve, and Pescosolido (1999) conducted a study using a community sample, in which the purpose was to determine public attitudes toward those diagnosed with mental illness. The participants in this study were randomly assigned to 1 of 5 vignette conditions: alcohol dependence, major depression, schizophrenia, cocaine dependence, troubled person. Participants were asked to identify the diagnosis of their assigned vignette, report their beliefs about mental illness and the origin of these illnesses. Participants were also asked to report perceived dangerousness and desired social distance from their assigned vignette condition. Participants perceived the person depicted with alcohol dependence as the most dangerous, followed by major depression, schizophrenia, cocaine

dependence, and the troubled person. Similarly, participants reported the greatest desired social distance from the depicted person with alcohol dependence, followed by major depression, schizophrenia, cocaine dependence, and the troubled person. The results indicated that symptoms of mental illness were highly correlated with public fears about potential violence and desire for high social distance (Link et al., 1999). It was concluded that social ideas about mental illness may negatively impact help-seeking, increase stereotyping, and compromise treatment regimens developed to treat those diagnosed with mental illness.

Stigma of major depression. In the United States approximately 6% of the population experiences a major depressive episode in his or her lifetime, with a difference in occurrence for men (2.6% to 5.5%) and women (6.0% to 11.8%) (Kessler, Berglund, & Demler, 2003). In order to be diagnosed with major depression, a person must have experienced at least 5 of the 9 following symptoms: depressed mood, lack of interest in most activities, weight loss or gain, difficulty getting to sleep or sleeping more than usual, agitation, decreased energy level, extreme guilt or thoughts of worthlessness, diminished concentration, and thoughts of suicide or suicide attempts (American Psychiatric Association [APA], 2000). These symptoms must be present most days for two consecutive weeks (APA, 2000). Additionally, a diagnosis of major depression requires one of the symptoms to be either depressed mood or loss of interest in previously enjoyed activities (APA, 2000).

To date, the bulk of the research on the stigma of depression has looked at health-seeking behavior. It is often hypothesized that due to stigmatization, those with

depression are more likely to conceal illness and avoid treatment, or resist treatment (Kelly, 2007). For example, Ben-Porath (2002) examined stigmatization of those who sought psychotherapy for depression. In this study undergraduate students were randomly assigned to 1 of 4 clinical vignettes: someone who received psychotherapy for depression, someone with depression but did not receive psychotherapy, someone who received medical treatment due to a back injury, or someone who had a back injury but did not seek medical treatment (Ben-Porath, 2002). Participants rated the person portrayed in the vignette on personality measures. It was found that those suffering from depression were perceived as more emotionally unstable, less competent, less interesting, and less competent than those suffering from back pain (Ben-Porath, 2002). These findings suggest mental health conditions are more likely to evoke stigma as compared with medical conditions. Further, those with depression who sought treatment were more stigmatized than those who did not seek treatment for depression (Ben-Porath, 2002). This research suggests mental illness stigma may be a barrier to care for those suffering from depression.

An important and related line of research on depression stigma examines how self-stigma can result from internalizing negative social attitudes towards mental illness. Barney, Griffiths, Jorm, and Christensen (2006) used an Australian sample to examine help-seeking intentions and stigmatizing beliefs about depression. Participants were presented with a clinical vignette describing someone with depression and asked if they were depressed like the person described, how likely they would be to: seek help from various mental health professionals, self-stigmatize, and expect social stigmatization.

Depressive symptoms and participants' history of depression were evaluated. The results indicated help-seeking behavior for depression was reduced when participants perceived high social stigma towards depression. Higher rates of self-stigmatization resulted in greater reluctance in seeking treatment for depression (Barney et al., 2006).

Stigma of post-traumatic stress disorder. Community-based studies in the United States indicate the lifetime prevalence rate for posttraumatic stress disorder is 8% of the adult population (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Studies of at-risk individuals have inconsistent findings, with the highest rates found among survivors of rape, military combat and captivity, and ethnically or politically motivated internment and genocide (APA, 2000).

A necessary criterion for PTSD diagnosis is exposure to a traumatic event resulting in intense fear, helplessness, or horror (APA, 2000). Other symptoms of PTSD must last at least 1 month and include: re-experiencing the trauma, avoidance of stimuli associated with the trauma and experiencing a numbing of awareness, persistent symptoms of increased arousal, significant social and occupational impairment (APA, 2000). To be diagnosed with PTSD, the previously listed symptoms must not have been present prior to the trauma (APA, 2000).

In their widely cited cross-sectional longitudinal study, Hoge et al. (2004) examined the prevalence of mental health problems among members of the U.S. military before or after their deployments to Iraq or Afghanistan. The specific mental health problems soldiers were screened for were major depression, generalized anxiety disorder, and PTSD. Of those American soldiers whose responses met the screening criteria for

mental illness post-deployment, only 38% of Afghanistan veterans and 45 % of Iraq veterans expressed an interest in receiving help, and only 23% of Afghanistan veterans and 40% of Iraq veterans reported seeking professional help (Hoge et al., 2004). Soldiers who met the diagnostic criterion for mental illness were approximately twice as likely to report fears of stigmatization and other barriers to care as compared with soldiers who didn't meet the same diagnostic criterion (Hoge et al., 2004). Additionally, soldiers who reported greater concern about mental illness stigma were most in need of help (Hoge et al., 2004), suggesting stigma is a barrier for seeking mental health care among Iraq and Afghanistan veterans.

Very few research studies in the area of stigma and PTSD exist, and to our knowledge there are no studies that have looked at social distance and perceived dangerousness as measures of stigmatization in this population. The study of the social stigmatization of PTSD is necessary considering the large number of Iraq war veterans returning to the United States who are being diagnosed with PTSD, the likelihood of self-stigmatization as a barrier to care, as well as the costs for not seeking care.

Gender Differences

Prevalence of psychiatric disorders. A gender difference exists in the incidence of mental illness. More women than men are diagnosed with mental illness and women are more likely to seek treatment (Schur, 1984). For example, there is a gender difference in the prevalence rate of depression, with women twice as likely to suffer as men. This difference surfaces in puberty and continues throughout adulthood (Kessler,

McGonagle, Swartz, Blazer, & Nelson, 1993; McBride & Bagby, 2006; Daley & Hammen, 2002; Daley, Hammen, & Rao, 2000).

Consistent with the depression prevalence rates, members of the general population believe women are more susceptible to depression than men. Numerous articles and television shows have presented depression as a women's disease, attributable to women's biology, social status, or biology (Nolen-Hoeksema, 1990). Therefore, the belief that women's hormones and emotional personalities cause them to suffer more depressions has been accepted by clinicians as well as the general public (Shields, 1975). This belief is an example of information availability heuristic, a phenomenon in which people base their prediction of the frequency of an event (diagnosis in this study) within a population based on how easily an example can be brought to mind (Tversky & Kahneman, 1973). Therefore, because women with depression have been so often described in the media, members of the general population believe women are more likely to be depressed than men because this information is so readily available, resulting in the stereotype that depression is disease which afflicts women. It's important to consider what members of the general public believe about depression and who is more likely to be diagnosed, as these social attitudes inform stigmatization.

There are also gender differences in the incidence of PTSD. The majority of research in trauma indicates women are more likely than men to suffer from PTSD (Cortina & Kubiak, 2006; Kessler et al., 1995; Olf, Langeland, Draijer, & Gersons, 2007). Additionally, it has been found that women are twice as likely as men to develop

PTSD (Cortina & Kubiak, 2006; Kessler et al., 1995). Despite the prevalence rates, PTSD has historically been associated with combat exposure by soldiers, and soldiers have historically been male (Scott, 1990). It's possible that according to information availability heuristic, members of the general population believe that male soldiers are more likely to develop PTSD than women. Beliefs that the general population have about PTSD and male soldiers with PTSD may be more relevant than prevalence rates in the context of the present study, as it is these beliefs not prevalence rates that directly impact participants' degree of stigmatization of this group.

Stigmatization of major depression. Although there is an abundance of research devoted to gender differences in depression, to our knowledge there were no studies investigating whether depressed males were more stigmatized than depressed females. However, one study found that male and female participants differed in the degree of desired social distance from a person with mental illness. In this study, Mann and Himelein (2004) used an undergraduate sample to examine the degree of stigma associated with major depression and schizophrenia, the relationship between psychiatric labels and stigmatization, and the relationship between social attitudes about health-seeking and stigmatization. Participants were asked to read 2 clinical vignettes with gender neutral names: one described and labeled a person with schizophrenia, and the second described and labeled the person with depression. Participants were asked to rate desired social distance to the described person using a modified version of the social distance scale (Link et al., 1999) as a measure of stigmatization. Participants desired a greater social distance from a person with schizophrenia as compared with depression

(Mann & Himelein, 2004). Additionally, female participants were less likely than male participants to stigmatize those diagnosed with depression or schizophrenia (Mann & Himelein, 2004). Therefore, female participants were less stigmatizing across conditions as compared with male participants.

Stigmatization of post-traumatic stress disorder. To our knowledge there are no studies to date that have compared social attitudes towards male and female trauma victims using social distance and perceived dangerousness as measures of stigmatization. However, there is research concerning this issue using other measures. For example, Mendelsohn and Sewell (2004) examined social attitudes toward gender-appropriate responses to trauma/PTSD, with the following 4 independent variables: participants' gender (male, female), participants' sex role orientation (masculine-sex-typed, feminine-sex-typed, androgynous/undifferentiated), gender of depicted trauma victim (male, female), and trauma type (natural disaster, crime victim). The dependent variable of the study was Attitudes Towards Trauma Victims; it is important to note that the Attitudes Towards Trauma Victims measure is similar to but not the same as our measure of social distance. After reading the randomly assigned vignette, participants were asked to evaluate the depicted person with respect to his or her likeability, desirability as a friend and romantic partner, intellect, competence, and overall perception. Participants rated male trauma victims less favorably than female trauma victims (Mendelsohn & Sewell, 2004). Female participants viewed trauma victims more favorably than male participants (Mendelsohn & Sewell, 2004), suggesting that female participants are less stigmatizing of those with PTSD. There was a positive relationship between personal trauma exposure

and attitudes toward male victims among male participants, with those with a history of trauma being less stigmatizing of trauma victims. Overall these findings suggest that being a trauma victim is more consistent with the female gender role stereotype and inconsistent with the male gender role stereotype (Mendelsohn & Sewell, 2004).

Summary. Perceived social threat may account for gender differences in mental illness stigmatization. For example, research has indicated that community samples desired a greater social distance from males with psychiatric diagnoses and perceive them as more dangerous as compared with females with the same diagnoses (Farina, 1981; Horowitz, 1982; Levinson & Zan York, 1974; Schnittker, 2000). Additionally, research has found that males with specific psychiatric disorders, such as depression and PTSD, are more stigmatized than females with the same psychiatric disorders.

Gender of the Evaluator and Stigmatization

It has been found that male evaluators, as compared to female evaluators, tend to be more stigmatizing of those with psychiatric disorders (Chodorow, 1989; Farina, 1981; Farina, Felner, & Boudreau, 1973; Horowitz, 1982; Levinson & Zan York, 1974). It is possible that the differences in male and female evaluators' attitudes toward men and women with mental illness differ by specific psychiatric conditions. Therefore, our study examined gender differences in the stigmatization associated with males and females with two psychiatric conditions as compared with one non-psychiatric condition to better understand gender differences and to identify possible barriers to care among those with mental illness.

Purpose and Hypotheses

Considering the large number of veterans returning from war, and the potential costs of untreated mental health conditions, the aim of this study was to better understand how Iraq veterans are perceived in the general population. This study is an important first step in identifying or ruling out stigma as a barrier to mental health care in Iraq War Veterans. The purpose of this study was to compare the stigmatization of male and female Iraq War veterans diagnosed with PTSD, depression, or chronic back pain disorder.

Social Distance. Hypothesis 1 predicts that Iraq War veterans diagnosed with a psychiatric disorder will evoke more social distance than Iraq War veterans with chronic back pain disorder. This prediction is derived from previous research which has found symptoms of mental illness to be associated with greater social distance (Link et al., 1999) as compared to a medical condition (Mann & Himelein, 2004).

Hypothesis 2 predicts that male Iraq War veterans will evoke more social distance than female Iraq War veterans. This hypothesis is based on research that has found community samples desired a greater social distance from males with psychiatric disorders as compared to females with psychiatric disorders (Schnittker, 2000).

Hypothesis 3 predicts that male participants, as compared to female participants, will report greater social distance from Iraq War veterans. This hypothesis was derived from previous research which found male participants report significantly greater social distance from clinical vignettes depicting a person with a mental illness (Mann & Himelein, 2004), and female evaluators tend to be more sympathetic than male evaluators

toward those with psychiatric disorders (Chodorow, 1989; Farina, Felner, & Boudreau, 1973; Farina, 1981; Horowitz, 1982).

Current research has found that participants rated males with PTSD less favorably than females with PTSD (Mendelsohn & Sewell, 2004). For this reason a fourth hypothesis of this study is that social distance scores will be greater for male Iraq War veterans with PTSD than female Iraq War veterans with PTSD.

Research has also shown that female participants are more sympathetic to psychiatric conditions than male participants (Chodorow, 1989; Farina, Felner, & Boudreau, 1973; Farina, 1981; Horowitz, 1982; Levinson & Zan York, 1974). Thus, a fifth hypothesis was that female participants would report less social distance as compared to male participants to veterans with PTSD. A sixth hypothesis was that male participants, as compared to female participants, will report greater social distance from male Iraq War veterans.

Because of research on the availability heuristic and stereotype threat, we expect a three-way interaction between gender and diagnosis of Iraq War veteran and gender of the participant. Specifically it is hypothesized that male participants will report greater social distance from males with PTSD, and female participants would report greater social distance from females with PTSD.

Perceived Dangerousness. Link and colleagues (1999) found that symptoms of mental illness were strongly associated with participants' fears about potential violence. Based on these findings, our first hypothesis for perceived dangerous predicts that Iraq

War veterans diagnosed with a psychiatric disorder will be perceived as more dangerous than Iraq War veterans with chronic back pain disorder.

Hypothesis 2 predicts that male Iraq War veterans will be perceived as more dangerous than female Iraq War veterans. This hypothesis was derived from previous work which found that males with psychiatric diagnoses were perceived as more dangerous as compared to females with the same diagnoses (Horowitz, 1982; Levinson & Zan York, 1974; Schnittker, 2000).

Hypothesis 3 predicts that male participants will perceive Iraq veterans as more dangerous than female participants. This hypothesis was consistent with previous research which has found male evaluators to be less sympathetic of those with psychiatric disorders than female evaluators (Chodorow, 1989; Farina, Felner, & Boudreau, 1973; Farina, 1981; Horowitz, 1982).

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Because of research on the availability heuristic and stereotype threat, we expect a three-way interaction between gender and diagnosis of Iraq War veteran and gender of the participant. Specifically it is hypothesized that male participants would perceive males with PTSD as more dangerous, and female participants would perceive females with PTSD as more dangerous.

Method

Participants

After receiving approval from the institutional review board, the researcher contacted psychology instructors at San Jose State University to obtain permission to survey students during their normal class time. No exclusion criteria existed for participants to enter the study. A convenience sample of 207 participants was recruited from students enrolled in introductory psychology courses, and data were collected in September of 2007. The data from four participants were dropped due to missing answers on the same question of the Crowne-Marlowe (1960) social desirability scale: "Before voting I thoroughly investigate the qualifications of all the candidates." After dropping all of the data from the four participants the actual samples size used in data analyses was $N = 203$. A power analysis was calculated using G*Power 3 statistical analysis program for a 3 (Diagnoses: depression, chronic back pain, PTSD) X 2 (Gender of vignette: male, female) X 2 (Gender of participant: male, female) factorial analysis of variance, assuming a medium effect, power of 80% and targeting a .05 significance level.

This analysis determined that a minimum of 158 participants were needed to attain sufficient power (Faul, Erdfelder, Lang, & Buchner, 2007); therefore, the sample size of 203 satisfies the power requirement.

Table 1 provides demographic information about the sample. The sample was composed of 124 female and 79 male students. The mean age for participants was 19.44 with a standard deviation of 2.76, with ages ranging from 17 to 41 years. The sample was ethnically diverse with 35.5% self-identifying as Asian or Pacific Islander, 23.2% Caucasian, 21.7% Hispanic, 6.4% African American, 1% Native American, and 12.3% self-identified as Other.

Design

In order to test the major hypotheses a 3 X 2 X 2 between subjects factorial design was used. The first independent variable of the study was the diagnosis (major depressive disorder, posttraumatic stress disorder, chronic back pain disorder) of the depicted Iraq veteran. The second independent variable was gender (male, female) of the Iraq veteran described in the vignette. The third independent variable was the gender (male, female) of the participant. The dependent variable was stigmatization. Consistent with previous research, stigmatization was operationalized both in terms of social distance and perceived dangerousness.

Table 1.

Summary of Participant Demographical Information

Variables	N	Percent (%)
Gender		
Female	124	61.1
Male	79	38.9
Participant total	203	100
Ethnicity		
African American	13	6.4
Asian or Pacific Islander	72	35.5
Caucasian	47	23.2
Hispanic	44	21.7
Native American	2	1.0
Other	25	12.3
Highest level of education completed		
Some graduate study	3	1.5
Bachelor's degree	4	2.0
Associate's degree	12	5.9
Some college	94	46.3
High school	90	44.3
Iraq Veterans	1	0.5
Participants who endorsed previous mental health treatment	33	16.3
Participants diagnosed with mental health problem	17	8.4
Agreement with United State's Involvement in Iraq	22	10.8

Age $M = 19.4$, $SD = 2.76$

Measures

Demographic and Case Descriptive Questionnaire. This measure asked basic questions about gender, age, ethnicity, and education (see Appendix A). Additionally, participants were asked whether a member of their family or someone close to them had ever sought help from a mental health professional, and or been diagnosed with a mental illness. Participants were also asked about their own experience with seeking mental health services and mental health history. Participants were asked if they agreed with the United State's involvement in the Iraq War and if they were a veteran of any current or past military conflicts (see Table 1).

Crowne-Marlowe Social Desirability Scale. This measure contains 32 true or false questions representing behaviors that are culturally endorsed (see Appendix B). A sample question would be, "Before voting, I thoroughly investigate the qualifications of all the candidates." This measure was designed to measure a tendency to respond in a socially desirable way on self-report psychological measures (Crowne & Marlowe, 1960). High scores on this measure demonstrate an affinity to underreport information the participant considers socially unacceptable (Crowne & Marlowe, 1960). This measure has good internal consistency, with estimates of Cronbach's alpha ranging from .73 - .88 (Crowne & Marlowe, 1964). Previous research has indicated when not controlled for social desirability is a limitation in survey research, particularly when using undergraduate samples as the true levels of stigmatization may be masked (e.g., Mann & Himlein, 2004). Because we surveyed an undergraduate sample, this measure

was administered to gauge the degree of social desirability in participants' responses, as a high score on this measure would limit the integrity of the dependent variable measures.

Vignettes. A total of 6 vignettes were used in this study (see Appendix C). The depression (APA, 2000; Link et al., 1999) and PTSD (APA, 2000; Friedman, 2006) vignettes were developed using the psychiatric diagnostic criterion for each disorder and consistent with previous research studies. A clinical psychologist verified that the vignettes for depression and PTSD were appropriately classified. Similarly, the chronic back pain vignette was developed using the medical diagnostic criterion for this disorder as indicated in the literature (Chibnall, Dabney, & Tait, 2000), and was developed to serve as our control condition. The vignettes were constructed to be balanced in terms of trauma exposure, number of symptoms and duration of problem. The vignettes were also equivalent with regard to reading difficulty, word length, and references to violence.

Social Distance Scale. This scale (see Appendix D) included 7 questions assessing participants' willingness to interact with the person described in the vignette in various social situations. Each item was rated on a 4-point Likert scale where 1 = "definitely willing" and 4 = "definitely unwilling." The scores were summed with a possible minimum score of 7 and maximum score of 28, with a higher score indicating greater desired social distance. Past studies found the internal consistency of this measure to be $\alpha = .92$ (e.g., Link et al, 1999). In the present study we found the internal consistency of this measure to be $\alpha = .85$.

Perceived Dangerousness. Because the central mechanism of social distance may be perceived dangerousness (Link et al., 1987), participants were asked to evaluate

dangerousness of a depicted Iraq veteran using a 4 point Likert scale with 1 representing “very unlikely” and 4 representing “very likely” (Link et al., 1999). The question used was: “How likely is it that Jane or John would do something violent toward other people?” Thus, the perceived dangerousness measure consisted of 1 question, with a minimum score of 1 and maximum 4, with a larger score indicating greater perceived dangerousness (see Appendix D).

Procedure

Before beginning the experiment, participants read and signed an informed consent form (see Appendix E) that included information about the general purpose of the study, assured their participation was voluntary and that data collected would remain anonymous and confidential, no anticipated risks or discomforts associated with completing the study, as well as informing them of their right to withdraw at any time without penalty. Next, each participant was given a packet of the previously described measures in the following order: demographic questionnaire, Crowne-Marlowe Social Desirability Scale, 1 vignette, Social Distance Scale and Perceived Dangerousness measure. Participants were randomly assigned one of the following vignettes: Jane diagnosed with PTSD, John diagnosed with PTSD, Jane diagnosed with major depressive disorder (MDD), John diagnosed with MDD, Jane diagnosed with chronic back pain (CBP), or John diagnosed with CBP. At the end of the packet participants were asked to indicate if there were circumstances with respect to this experiment, the experimenter, or events in their life that influenced their responses. After completing the questionnaire packet, each participant received a debriefing sheet explaining more detailed information

about the purpose of the study and given contact information for researchers in case they had further questions. The debriefing sheet also included the contact information for the University Counseling Services (see Appendix C).

Results

Descriptive Statistics

Table 2 shows the number of participants who received each experimental condition. Table 3 lists the means and standard deviations of the social distance scale ratings in each condition. The descriptive statistics suggest that on average participants desired greatest social distance from Iraq War veterans diagnosed with either depression ($M = 17.86, SD = 3.81$) or PTSD ($M = 17.12, SD = 3.66$) and less distance from veterans with chronic back pain ($M = 14.17, SD = 4.95$).

Participants desired greatest social distance from male Iraq veterans diagnosed with PTSD ($M = 18.14, SD = 3.47$) than female veterans with PTSD ($M = 16.06, SD = 3.58$). Not shown in Table 2 is the finding that male participants were more stigmatizing of PTSD ($M = 18.46, SD = 3.68$) than female participants ($M = 15.73, SD = 3.12$).

Table 4 lists descriptive statistics for perceived dangerousness ratings in each condition. The means indicate that regardless of diagnosis, male Iraq veterans were perceived as more dangerous ($M = 2.46, SD = .71$) than females ($M = 2.00, SD = .73$). Overall, Iraq veterans diagnosed with PTSD ($M = 2.36, SD = .77$) were identified as the most dangerous condition, followed by depression ($M = 2.17, SD = .73$) and chronic back pain ($M = 2.15, SD = .75$).

Table 2.

Number of Participants in Each Condition

		<u>Diagnosis of Vignette</u>		
Gender of Vignette	Gender of Participant	Chronic Back Pain	Depression	Post-traumatic Stress Disorder
		n	n	n
Female	Females	25	19	18
	Males	10	12	16
Male	Females	21	25	16
	Males	15	7	19
Total		71	63	69

Table 3.

Descriptive Statistics for Social Distance Scale Ratings

		<u>Diagnosis of Vignette</u>								
Gender of Vignette	Chronic Back Pain			Depression			Post-traumatic Stress Disorder			
	Mean	S.D.	n	Mean	S.D.	n	Mean	S.D.	n	
Female	13.80	5.21	35	18.00	4.12	31	16.06	3.58	34	
Male	14.53	4.74	36	17.72	3.53	32	18.14	3.47	35	
Total	14.17	4.95	71	17.86	3.81	63	17.12	3.66	69	

Table 4.

Descriptive Statistics for Perceived Dangerousness Ratings

	<u>Diagnosis of Vignette</u>								
	Chronic Back Pain			Depression			Post-traumatic Stress Disorder		
Gender of Vignette	Mean	S.D.	n	Mean	S.D.	n	Mean	S.D.	n
Female	1.94	0.77	35	1.94	0.68	31	2.12	0.73	34
Male	2.36	0.68	36	2.41	0.71	32	2.60	0.74	35
Total	2.15	0.75	71	2.17	0.73	63	2.36	0.77	69

Preliminary Analyses

In order to identify covariates, point biserial correlations (r_{pb}) were calculated between dichotomous demographic and case descriptive variables and the dependent measures Social Distance and Perceived Dangerousness. Two case descriptive variables resulted in significant correlations with Social Distance. The first asked participants “Have you ever sought help from a mental health professional?” This resulted in a small but significant correlation, $r_{pb} = .15, p = .04$. The second asked participants, “Have you ever been diagnosed with a mental health problem?” This also resulted in a small significant correlation, $r_{pb} = .16, p = .02$. Consequently, both of these case descriptive variables were entered as covariates in the ANOVA with Social Distance as the dependent variable. We did not find any significant correlations between the demographic and case descriptive variables and Perceived Dangerousness.

It was also suspected that social desirability may be correlated with the dependent variables. A Pearson correlation was calculated between participants' score on the Crowne-Marlowe Social Desirability Scale and social distance, resulting in a significant correlation, $r = -.20, p = .00$. A significant correlation between social desirability and social distance suggests that those participants with higher scores on the social desirability measure tended to underreport desired social distance from the depicted person. A Pearson correlation was also calculated between participants' score on the Crowne-Marlowe Social Desirability Scale and perceived dangerousness, resulting in a non-significant correlation, $r = -.06, p = .43$. Due to the non-significant correlation between perceived dangerousness and social desirability, social desirability was ruled out as a covariate in the ANOVA with perceived dangerousness as the dependent measure. Social desirability was entered as a covariate and controlled for in the ANOVA with social distance as the dependent variable, as the correlation between social desirability and social distance was significant.

Analysis of Variance

Social Distance. In the first analysis the gender and diagnosis of the Iraq veteran depicted in the vignette, and the gender of the participant were entered as independent variables, and Social Distance entered as the dependent variable. Additionally, social desirability and 2 case descriptive variables were entered as covariates as previously described.

Hypothesis 1 predicted that Iraq War veterans diagnosed with a psychiatric disorder would evoke more social distance than Iraq War veterans with chronic back pain

disorder. There was a significant main effect for diagnosis ($F(2,189) = 14.36, p = .00, partial\ eta^2 = .13$), with both depression ($M = 17.73, Standard\ Error\ [SE] = .57, 95\% Confidence\ interval\ [CI] 16.62\ to\ 18.85$) and PTSD ($M = 17.10, SE = .49, 95\% CI 16.15\ to\ 18.05$) associated with greater desired social distance than chronic back pain ($M = 14.06, SE = .51, 95\% CI 13.06\ to\ 15.06$). This finding offered support to hypothesis 1 as pair-wise comparisons determined perceptions of MDD and PTSD were not statistically different ($d = .63, SE = .75, p = .78, 95\% CI\ for\ mean\ cell\ difference -1.17\ to\ 2.43$).

Hypothesis 2 predicted that male Iraq War veterans would evoke more social distance than female Iraq War veterans. There was trend for greater social distance from male veterans ($M = 16.79, SE = .43, 95\% CI 15.94\ to\ 17.64$) than female veterans ($M = 15.80, SE = .42, 95\% CI 14.97\ to\ 16.63$) but this did not reach statistical significance, $F(1, 189) = 2.70, p = .10, partial\ eta^2 = .01$).

Hypothesis 3 predicted that male participants, as compared to female participants, would report greater social distance from Iraq War veterans. This hypothesis was not supported as there was a non-significant main effect for gender of the participant ($F(1, 189) = 0.03, p = .86, partial\ eta^2 = .00$), suggesting that males ($M = 16.24, SE = .48, 95\% CI 15.30\ to\ 17.19$) and females ($M = 16.35, SE = .37, 95\% CI 15.63\ to\ 17.08$) did not significantly differ in levels of desired social distance from Iraq War veterans

Hypothesis 4 predicted that that social distance scores would be greater for male Iraq War veterans with PTSD than female Iraq War veterans with PTSD. This hypothesis was not supported as there was a non-significant 2-way interaction between gender and diagnosis of the vignette, ($F(2, 189) = .77, p = .47, partial\ eta^2 = .01$).

Therefore, male Iraq War veterans with PTSD ($M = 18.10$, $SE = .68$, 95% CI 16.75 to 19.45) did not significantly evoke more social distance than female Iraq War veterans with PTSD ($M = 16.10$, $SE = .69$, 95% CI 14.74 to 17.46).

Hypothesis 5 predicted that female participants, as compared to male participants, would report less social distance from Iraq War veterans with PTSD. This hypothesis was supported as there was a significant 2-way interaction between gender of the participant and diagnosis of the vignette ($F(2, 189) = 4.32$, $p = .02$, $partial\ eta^2 = .04$). Female participants ($M = 15.95$, $SE = .70$, 95% CI 14.58 to 17.32), as compared to male participants ($M = 17.17$, $SE = .68$, 95% CI 15.83 to 18.51), reported significantly less social distance from Iraq War veterans with PTSD. Because the interaction between gender of the participant and diagnosis of the vignette was significant, an analysis of simple effects followed to determine how males and females differed in their evaluation of each of the particular diagnoses.

Figure 1 illustrates the findings of the analysis of the simple effects for the PTSD diagnosis. Male participants ($M = 18.46$, $SD = 3.68$) reported significantly more social distance from Iraq War veterans with PTSD as compared with female participants ($M = 15.74$, $SD = 3.12$; $F(1, 66) = 9.19$, $p = .00$, $partial\ eta^2 = .10$). The analysis of the simple effects for the diagnosis MDD found that female participants reported greater desired social distance from a depicted Iraq War veteran with MDD ($M = 18.43$, $SD = 3.60$) as compared with male participants ($M = 16.53$, $SD = 4.02$; $F(1, 58) = 5.98$, $p = .02$, $partial\ eta^2 = .09$). The analysis of the simple effects for CBP found that male participants ($M = 13.56$, $SD = 5.29$) and female participants ($M = 14.50$, $SD = 4.78$) did

not significantly differ with respect to degree of desired social distance from a depicted Iraq War veteran with CBP ($F(1, 66) = .15, p = .70, \text{partial } \eta^2 = .00$).

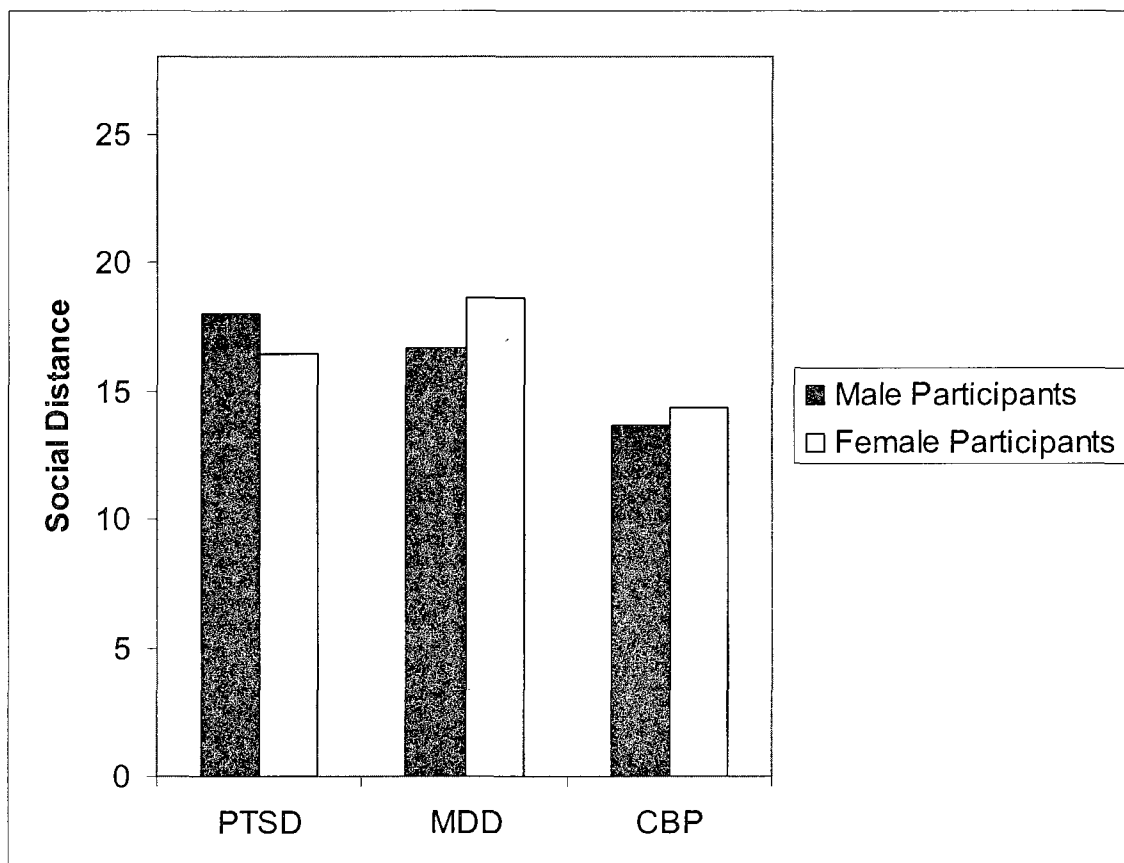


Figure 1. 2-Way Interaction Between Participant's Gender and Diagnosis

Hypothesis 6 predicted that male participants, as compared to female participants, would report greater social distance from male Iraq War veterans. This hypothesis was not supported as there was a non-significant 2-way interaction between gender of the participant and gender of the depicted Iraq War veteran, ($F(1, 189) = 2.05, p = .15, \text{partial } \eta^2 = .01$).

Hypothesis 7 predicted that male participants would report greater social distance from males with PTSD, and female participants would report greater social distance from females with PTSD. There was a trend for a significant 3-way interaction ($F(2, 189) = 2.56, p = .08, \text{partial } \eta^2 = .03$). Although this finding was not significant, Figure 2 depicts that male participants, as compared to female participants, tended to report greater social distance from male Iraq War veterans with PTSD ($M = 19.52, SE = .92, 95\% \text{ CI } 17.70 \text{ to } 21.34$) than female Iraq War veterans with PTSD ($M = 16.99, SE = 1.00, 95\% \text{ CI } 15.01 \text{ to } 18.97$). Figure 3 depicts that females participants reported more social distance from male Iraq War veterans with PTSD ($M = 16.69, SE = 1.02, 95\% \text{ CI } 14.68 \text{ to } 18.70$) than female Iraq War veterans with PTSD ($M = 15.21, SE = .95, 95\% \text{ CI } 13.34 \text{ to } 17.08$).

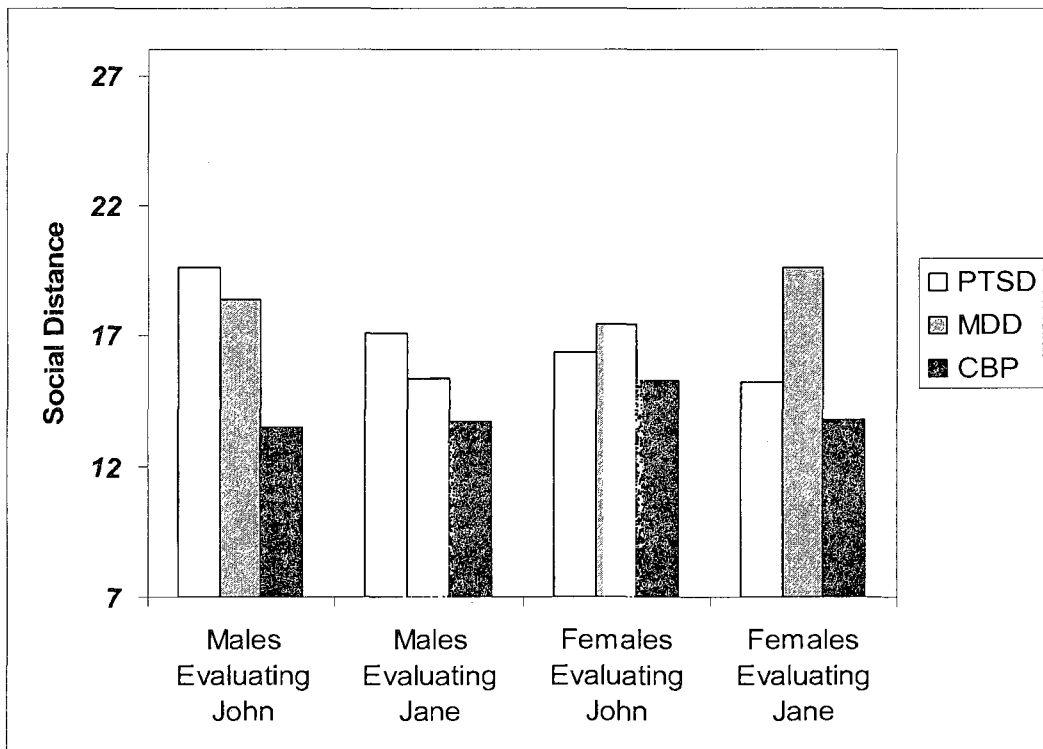


Figure 2. 3-Way Interaction Using Mean Values of Social Distance

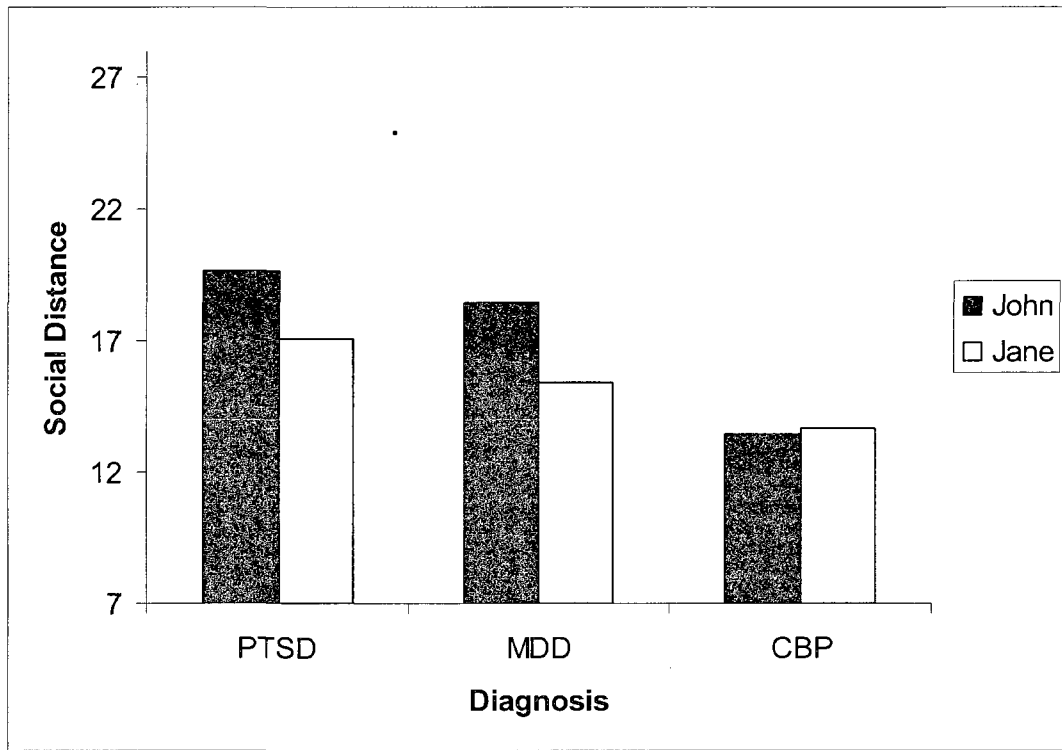


Figure 3. 3-Way Interaction Depicting Male Participants' Desired Social Distance From Male and Female Iraq Veterans with PTSD, Depression, or Chronic Back Pain

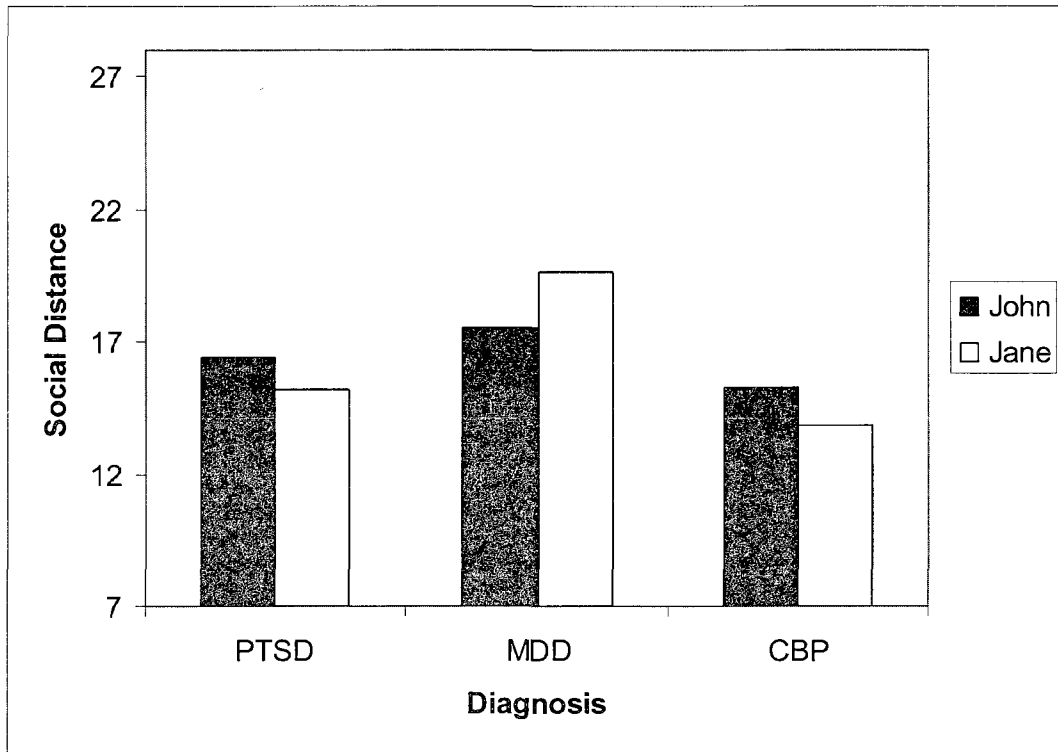


Figure 4. 3-Way Interaction Depicting Female Participants' Desired Social Distance From Male and Female Iraq Veterans with PTSD, Depression, or Chronic Back Pain

Perceived Dangerousness. A second 3 X 2 X 2 analysis was conducted with the gender and diagnosis of the Iraq veteran depicted in the vignette, and the gender of the participant were entered as independent variables, and perceived dangerousness entered as the dependent variable. No covariates were entered into this analysis. Consistent with previous studies, perceived dangerousness and social distance were significantly correlated ($r = .18, p = .01$).

The first hypothesis for perceived dangerous predicted that Iraq War veterans diagnosed with a psychiatric disorder will be perceived as more dangerous than Iraq War veterans with chronic back pain disorder. There was a non-significant main effect for

diagnosis of vignette ($F(2, 191) = 1.72, p = .18, \text{partial } \eta^2 = .02$), suggesting participants did not perceive a person with a psychiatric diagnosis as more dangerous than chronic back pain disorder.

Hypothesis 2 predicted that male Iraq War veterans will be perceived as more dangerous than female Iraq War veterans. As expected there was a significant main effect of gender of the depicted veteran ($F(1, 191) = 16.06, p = .00, \text{partial } \eta^2 = .08$, 95% CI for mean cell difference .22 to .64), with males Iraq veterans ($M = 2.42, SE = .08$, 95% CI 2.28 to 2.58) perceived as more dangerous than female Iraq veterans ($M = 2.00, SE = .08$, 95% CI 1.85 to 2.15).

Hypothesis 3 predicts that male participants will perceive Iraq veterans as more dangerous than female participants. There was a non-significant main effect for the participant's gender ($F(1, 191) = 0.09, p = .77, \text{partial } \eta^2 = .00$, 95% CI for mean cell difference -.25 to .18), suggesting that male and female participants did not significantly differ in their perceptions of dangerousness of Iraq War veterans.

Hypothesis 4 predicted that perceived dangerousness scores will be greater for male Iraq War veterans with PTSD than female Iraq War veterans with PTSD. There was a non-significant 2-way interaction between diagnosis and gender of the vignette ($F(2, 191) = .04, p = .96, \text{partial } \eta^2 = .00$).

Hypothesis 5 predicted that female participants would perceive Iraq War Veterans with PTSD as less dangerous as compared to male participants. This hypothesis was not supported as there was a non-significant 2-way interaction between diagnosis of the vignette and gender of the participant ($F(2, 191) = .55, p = .58, \text{partial } \eta^2 = .01$).

Hypothesis 6 predicted that male participants would perceive male Iraq War veterans as more dangerous, as compared to female participants. This hypothesis was not supported as there was a non-significant 2-way interaction between gender of the vignette and gender of the participant ($F(1, 191) = .06, p = .80, \text{partial } \eta^2 = .00$).

Hypothesis 7 predicted that male participants would perceive males with PTSD as more dangerous, and female participants would perceive females with PTSD as more dangerous. This hypothesis was not supported as there was a non-significant 3-way interaction between diagnosis of Iraq veteran, gender of Iraq veteran, and gender of participant ($F(2, 191) = 1.96, p = .14, \text{partial } \eta^2 = .02$).

Discussion

Summary of Results

The present study examined the degree of stigmatization of male and female Iraq war veterans diagnosed with PTSD, depression, or chronic back pain using self-report measures of social distance and perceived dangerousness as the operationalization of stigmatization. The results from the findings for each dependent variable will be reviewed, and then stigmatization will be discussed in general.

Social Distance. Consistent with previous research (e.g., Ben-Porath, 2002), Iraq War veterans with a psychiatric disorder, such as PTSD or depression, evoked more social distance than Iraq War veterans with chronic back pain disorder. This finding suggests that mental illness stigma still exists, and may be a barrier to care for Iraq Veterans diagnosed with PTSD and or depression.

Male Iraq veterans did not significantly evoke more social distance than female Iraq veterans, however there was a trend ($p = .10$) for differences in reported social distance with respect to male and female Iraq veterans. This finding was inconsistent with previous research which has found that community samples desired a greater social distance from males with psychiatric diagnoses as compared with females with psychiatric diagnoses (e.g., Schnittker, 2000). Previous work on stigmatization of mental illness have used community samples reporting desired social distance from a person depicted with various mental illnesses; however to date this well established body of research has not included the diagnosis of PTSD. To our knowledge this is the first study depicting Iraq veterans with psychiatric diagnoses, with social distance and perceived dangerousness as the operationalization of stigmatization. It's possible that the results of the study may be different from what has been found in the mental illness stigma research, since the target person is not a member of the general population diagnosed with a mental illness but a soldier diagnosed with a mental illness. The depiction of a soldier may present a confounding variable, as participants' attitudes about soldiers may be intertwined with beliefs about mental illness. For example, if a person has positive views about soldiers but negative views about mental illness, this ambivalence would be reflected in the degree of stigmatization reported.

Male participants as compared with female participants did not report significantly greater social distance from Iraq veterans. This finding was inconsistent with previous research, which has found male participants as compared with female participants to be less sympathetic and more stigmatizing of those with mental illness

(e.g., Mann & Himelein, 2004). One explanation for this finding is that it is a person's beliefs about gender and gender roles, not biological sex, which impacts social evaluations. Previous research has found that masculine-sex-typed individuals evaluated those depicted with PTSD more negatively as compared to others with different gender orientations (Mendelsohn & Sewell, 2004). It's possible that the examinations of biological sex differences in stigmatization of mental illness are outdated. Therefore, the examination of gender role orientation as opposed to biological sex may provide a better understanding of which groups are more or less likely to stigmatize Iraq veterans with PTSD.

Male Iraq veterans diagnosed with PTSD did not significantly evoke more social distance than female Iraq veterans with PTSD. This finding was surprising and inconsistent with previous research which has found that participants desired more social distance from males with PTSD as compared with females with a PTSD (Mendelsohn & Sewell, 2004). One explanation for this finding is that the depiction of a soldier may present a confounding variable, as participants' attitudes about soldiers may be intertwined with beliefs about mental illness. For example, if a person has positive views about soldiers but negative views about mental illness, this ambivalence would be reflected in the degree of social distance reported.

Confirming our prediction, female participants as compared to male participants, reported significantly less social distance from Iraq War veterans with PTSD. In other words, male participants reported more social distance from Iraq veterans than female participants. This finding can be explained in terms of information availability heuristic

and stereotype threat. A stereotype threat occurs when the following 3 conditions are met: there is a negative group stereotype, a person to whom it could be applied, and behavior that can substantiate the negative group stereotype to the person in question (Steele, Spencer, & Aronson, 2002). Stereotype threat occurs because the person (the participant) is afraid of affirming the negative stereotype, because doing so may result in his or her social stigmatization (Steele et al., 2002). PTSD has been historically been associated combat exposure and male soldiers (Scott, 1990), and much of the news available to the general public about PTSD is in reference to male soldiers. Consistent with information availability heuristic, it's possible that the participants of this study stereotyped PTSD as a condition experienced by male soldiers. Because the male Iraq veteran with PTSD is a member of the male in-group, male participants distance themselves from the male Iraq veteran with PTSD by reporting greater social distance as a means of disconfirming the negative stereotype and protecting themselves from stigmatization.

Although hypotheses were not made about depression, one of the findings regarding depression was noteworthy. Female participants, as compared with male participants, reported more social distance from Iraq veterans with depression. This finding was surprising, and inconsistent with previous research which has found female participants to be more sympathetic and less stigmatizing of those with mental illness (Mann & Himelein, 2004). Although surprising, this result can be explained in terms of information availability heuristic and stereotype threat. Women with depression have been described often in various forms of media. According to information availability

heuristic, the participants in this study may believe women are more likely to be depressed than men because that is what is prominently portrayed in the media. Due to the availability of this information, members of the general population may stereotype depression as a disease which afflicts women. In the present study, female participants identify the female Iraq veteran as a member of their in-group. According to stereotype threat, the female veteran with depression depicts women in a way counter to how female participants would like to be perceived in society. By reporting greater social distance from the depressed female Iraq veteran, female participants are attempting to disconfirm this negative stereotype and protect themselves from social stigmatization.

Another explanation for this finding is that female participants' adherence to gender roles as opposed to biological sex may be important in their evaluation of female veterans with depression. Traditional gender role adherence is particularly salient in the present study, as being a female soldier defies the traditional gender role definition of femininity (Pierce, 2006). Those who ascribe to traditional gender roles are less tolerant of those who deviate from their views of maleness and femaleness (Hinkelman & Granello, 2003), which may explain why females were more likely to stigmatize females with depression and male participants were more likely to stigmatize men with PTSD.

Male participants, as compared to female participants, did not report significantly greater social distance from male Iraq veterans. This finding was perplexing and inconsistent with previous research which has found male evaluators to be less sympathetic toward persons with psychiatric conditions. One possible explanation is that when attitudes of male participants are averaged across conditions, there is no significant

difference between male and female participants' desired social distance. Thus it could be concluded that it is not the gender of the vignette that is salient in the social evaluation of Iraq veterans, but the diagnosis of the vignette and gender of the participant.

Counter to our hypothesis, male participants did not significantly report greater social distance from males with PTSD, and female participants did not significantly report greater social distance from females with PTSD. Although this finding was not statistically significant ($p = .08$), it's important to closely consider the mean values as a post-hoc analysis of power suggested our study may not have had enough power to detect a difference between groups. The discrepancy between the a priori power analysis and the post hoc analysis was due to the a priori assumption of a medium effect size. After analyzing the results of the study, it was discovered that assuming a small effect size would have been more appropriate, and that approximately 70 more participants were needed for this study to have sufficient power (Faul et al., 2007). Because of the possibility that the study was under powered, statistical trends should be closely evaluated.

Perceived Dangerousness. Previous research has found perceived dangerousness to be a mediator for social distance. Although there was a significant correlation between social distance and perceived dangerousness in the present study, the findings from previous research was not replicated. The inconsistency in results between the dependent measures of social distance and perceived dangerousness suggests that perceived dangerousness may not be the best variable to be used to capture stigmatization in this

population. Therefore, future studies should use social distance as the operationalization of stigmatization.

Limitations

There were limitations in this study that might have affected the results. The sample was one of convenience and consisted mostly of undergraduate students enrolled in Psychology 1 courses. Additionally, there were more female participants ($n = 124$, 61.1%), than male participants ($n = 79$, 38.9%), which may have impacted the measurement of participants' perceptions of male and female Iraq veterans. Future studies need to be more balanced in the number of male and female participants.

Although the sample was ethnically diverse and representative of the San Francisco Bay Area, the results of this study should be generalized to other populations with caution. Along the same vein, an ethnically diverse sample may have different cultural beliefs about mental illness and soldiers which may have impacted participants' responses. Due to sample characteristics our findings may be limited in their generalizability, and replication of this study to different samples is warranted.

Although the measure of perceived dangerousness had face validity and has been used in previous research, it was weak measure because it consisted of only one question. Because the measure of perceived dangerousness was only one question, its ability to capture the construct of stigmatization was limited as demonstrated by this study. Future studies should use longer and well validated measures of perceived dangerousness (e.g., Link et al., 1987), as this may significantly change the results in future replications of this study.

The vignettes were constructed to be balanced vignettes in terms of trauma exposure, number of symptoms and duration of problem, reading difficulty, word length, and references to violence. However, the chronic back pain vignette for males and females differed from the PTSD and MDD vignettes in that they contained the following sentence: John's/Jane's back pain has minimized his/her ability to do chores around the house, care for his/her children, and forced him/her to discontinue his/her usual recreational activities. The reference to reduced ability to care for children and household chores in the CBP vignettes may have presented a confound into the study as the same reference is not made in the PTSD and MDD vignettes. However, it is important to note that the presence of this confound made for a more conservative test of the hypotheses. This offers more support of the finding that Iraq War veterans with psychiatric disorders are more stigmatized than Iraq War veterans with chronic back pain.

Future Research

Future studies should place more focus on gender role socialization as opposed to biological sex. For example, the examination of adherence to traditional gender roles as a possible mediator to the stigmatization associated with PTSD and depression may clarify the findings of this study. It is also recommended that future studies include measures of gender role orientation, as previous research has found that a participants' understanding of gender roles impacts his or her evaluations of trauma victims (Mendelsohn & Sewell, 2004).

Future studies need to investigate the role of perceived dangerousness in the stigmatization of Iraq veterans with PTSD and depression. Previous research has found

perceived dangerousness to mediate the relationship between social distance and mental illness; however, this finding was not clearly demonstrated in this study. To our knowledge this is the first studying using social distance to measure stigmatization of soldiers with psychiatric diagnoses. It is possible that participants' desired social distance and perceived dangerousness of the depicted soldier reflect attitudes about male and female soldiers intertwined with beliefs about mental illness. One way to test the possible confound of attitudes towards soldiers and attitudes towards mental illness would be to include six more vignettes in the study. These vignettes could, for example depict a male and female aide worker who was stationed in Iraq during the Iraq war, resulting in PTSD, depression, or chronic back pain. Although the addition of six vignettes would require a much larger sample, it would be an effective way to identify if attitudes toward soldiers served as a confounding variable in the present study. More work in this area is needed to better understand the role of perceived dangerousness in the stigmatization of Iraq veterans with PTSD and depression.

Although our study asked participants about previous mental health care and diagnosis, it did not formally assess PTSD and/or depression. In previous research, it has been found that males who had been exposed to trauma held more sympathetic attitudes toward male trauma victims (Mendelsohn & Sewell, 2004). It would be useful for future studies to include well validated measures for depression such as the Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996) and the PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993) for PTSD, as this can be useful in determining if participants with PTSD and MDD as compared with those without differ

in degree of stigmatization of Iraq veterans with the PTSD and MDD. This information would help researchers to understand which groups are more or less likely to stigmatize these conditions, which would be useful information for psychoeducation and antistigma programs.

Future studies need to examine stigmatizing attitudes held by health-care providers. Clinicians may hold the same stigmatizing attitudes as the general public (Robertson & Fitzgerald, 1990). This work is important because, when clinicians hold stigmatizing attitudes toward their patients, the negative impact of these attitudes is far reaching. For example, patients may internalize the stigmatizing attitudes of clinicians resulting in self-stigma, making it less likely that patients would seek mental health care. Stigmatizing attitudes of clinicians may also impact the psychological assessments of patients. Male clinicians may be more likely to stigmatize males with PTSD and female clinicians more likely to stigmatize females with depression. Research in this area is essential as clinicians who hold stigmatizing attitudes may impede the detection and treatment of mental illness, suggesting that these stigmatizing attitudes are a barrier to seeking mental health care.

The findings of this study may not be generalizable to a military population due to the military's unique culture. It is important to replicate this study in a military sample, as it has been found in a recent study that the most endorsed barriers to mental health care reported by soldiers are intimately related to military culture (Warner, Appenzeller, Mullen, Warner, & Grieger, 2008). For example, Warner and colleagues (2008) found that the three most endorsed perceived barriers to care by soldiers were fears of negative

perception by unit members, fears of negative perceptions by leaders, and fears about being viewed as weak. Future studies need to examine these attitudes in different branches of the military such as active duty personnel and veterans, as recent studies have found that those soldiers who had deployed were less likely to seek mental health care as compared with those who had not been deployed (Warner et al., 2008). The implications for stigmatization of psychiatric conditions between active duty soldiers and reservist may be different. Future studies in this area are needed to determine if differences do exist and to examine the implications of these differences.

Implications

The findings of this study have important clinical implications. Through self-stigmatization, male veterans may be less likely to seek help for PTSD and female veterans may be less likely to seek help for depression. Similarly, men in the military may be more likely to stigmatize PTSD especially in other men, and females in the military may be more likely to stigmatize depression especially in other women. Therefore, understanding help-seeking behavior in Iraq War veterans may need to include consideration of presenting diagnosis as well as gender. When mental health care providers, members of the military, and family members are educated about this gender difference, they can take steps to buffer stigmatization by encouraging mental health treatment. Additionally, the findings of this study are significant as health care providers may hold similar views as the participants in the study. Male health care providers may be more likely to stigmatize males with PTSD, whereas female health care providers may be more likely to stigmatize females with depression. If male and female health care

providers hold stigmatizing attitudes, this could impact detection and treatment of PTSD and depression, which can have cascading negative consequences.

The findings of this study also have implications for psychoeducation and antistigma programs in the military and community populations. The present study found that psychiatric diagnoses were more stigmatized than a medical condition, and specifically men were more stigmatizing of male veterans with PTSD and women were more stigmatizing of female veterans with depression. These findings should be integrated into current antistigma and psychoeducation programs within the military and the community at large. These programs should also emphasize mental health problems as a disability as opposed to a character flaw, as it allows veterans patient rights and minimizes self-blame. Family members and loved ones, as well as members of the military need to be involved in antistigma and psychoeducation programs as current research has found these to be useful ingredients in minimizing stigma and increasing mental health treatment in veterans (Gould, Greenberg, & Hetherton, 2007; Warner et al., 2008). It is important to have periodical evaluations of these programs, as they may be an important factor in minimizing stigma as a barrier to care and encouraging early treatment of mental illnesses such as PTSD and depression in veteran and active duty military personnel.

References

- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders-IV-TR*. Washington, D.C.: American Psychiatric Association.
- Angermeyer, M., Beck, M., DiplSoz, & Matschinger, H. (2003). Determinants of the public's preference for social distance from people with schizophrenia. *Canadian Journal of Psychiatry, 48*(10), 663-668.
- Angermeyer, M., & Matschinger, H. (2003). The stigma of mental illness: Effects of labeling on public attitudes towards people with mental disorder. *Acta Psychiatrica Scandinavica, 108*, 304-309.
- Barney, L. J., Griffiths, K. M., Jorm, A. F., & Christensen, H. (2006). Stigma about depression and its impact on help-seeking intentions. *Australian and New Zealand Journal of Psychiatry, 40*, 51-54.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory* (2nd ed.). San Antonio, TX: Psychological Corporation.
- Ben-Porath, D. D. (2002). Stigmatization of individuals who receive psychotherapy: An interaction between help-seeking behavior and the presence of depression. *Journal of Social and Clinical Psychology, 21*, 400-413.
- Chibnall, J. T., Dabney, A., & Tait, R. C. (2000). Internists judgments of chronic low back pain. *Pain Medicine, 1*, 231-237.
- Chodorow, N. J. (1989). *Feminism and psychoanalytic theory*. New Haven, CT: Yale University.
- Corrigan, P. W. & Kleinlein, P. (2005). The impact of mental illness stigma. In P. W. Corrigan (Ed). *On the stigma of mental illness: Practical strategies for research and social change* (pp. 1-28). Washington, D.C.: American Psychological Association.
- Cortina, L. M., & Kubiak, S. P. (2006). Gender and posttraumatic stress: Sexual violence as an explanation for women's increased risk. *Journal of Abnormal Psychology, 115*, 753-759.
- Crowne, D. & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349-354.
- Crowne, D. P., & Marlowe, D. (1964). *The approval motive: Studies in evaluative dependence*. New York: John Wiley & Sons.

- Daley, S. E., & Hammen, C. (2002). Depressive symptoms and close relationships during the transition to adulthood: Perspectives from dysphoric women, their best friends, and their romantic partners. *Journal of Consulting and Clinical Psychology, 70*, 129-141.
- Daley, S. E., Hammen, C., & Rao, U. (2000). Predictors of first onset and recurrence of major depression in young women during the 5 years following high school graduation. *Journal of Abnormal Psychology, 109*, 525-533.
- Dovidio, J. F., Major, B., & Crocker, J. (2000). Stigma: Introduction and overview. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, & J.G. Hull (Eds.), *The social psychology of stigma* (pp. 1-30). New York: Guilford Press.
- Farina, A. (1981). Are women nicer people than men?: Sex and the stigma of mental disorders. *Clinical Psychology Review, 1*(2), 223-243.
- Farina, A., Felner, R. D., & Boudreau, L.A. (1973). Reactions of workers to male and female mental patient job applicants. *Journal of Consulting and Clinical Psychology, 41*, 363-372.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Friedman, M. J. (2006). Posttraumatic stress disorder among military returnees from Afghanistan and Iraq. *American Journal of Psychiatry, 163*(4), 586-593.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice Hall.
- Gould, M., Greenberg, N., & Hetherton, J. (2007). Stigma and the military: Evaluation of a PTSD psychoeducational program. *Journal of Traumatic Stress, 20*(4), 505-515.
- Greene-Shortridge, T., Britt, T., & Castro, C. (2007). The stigma of mental health problems in the military. *Military Medicine, 172*, 157-161.
- Hinkelman, L., & Granello, D. G. (2003). Biological sex, adherence to traditional gender roles, and attitudes toward persons with mental illness: An exploratory investigation. *Journal of Mental Health Counseling, 25*(4), 259-270.

- Hoge, C., Castro, C., Messer, S., McGurk, D., Cotting, D., & Koffman, R. (2004). Combat duty in Iraq and Afghanistan: Mental health problems and barriers to care. *New England Journal of Medicine*, 351, 13-22.
- Horowitz, A. V. (1982). *The social control of mental illness*. New Brunswick, NJ: Academic Press.
- Kelly, C. M. (2007). Stigma and mood disorders. *Current Opinion in Psychiatry*, 20, 13-16.
- Kessler, R. C., Berglund, P., & Demler, O. (2003). The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association*, 289, 3095-3105
- Kessler, R. C., McGonagle, K. A., Swartz, M., Blazer, D. G., & Nelson, C. B. (1993). Sex and depression in the National Comorbidity Survey 1: Lifetime prevalence, chronicity and recurrence. *Journal of Affective Disorders*, 29, 85-96.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). PTSD in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1060.
- Levinson, R. M., & Zan York, M. (1974). The attribution of dangerousness in mental health evaluations. *Journal of Health and Social Behavior*, 27, 289-302.
- Link, B., Cullen, F., Frank, J., & Wozniak, J. (1987). The social rejection of former mental patients: Understanding why labels matter. *American Journal of Sociology*, 92, 1460-1500.
- Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A. & Pescosolido, B. A. (1999). Public conceptions of mental illness: Labels, causes, and social distance. *American Journal of Public Health*, 89, 1328-1333.
- Mann, C., & Himelein, M. (2004). Factors associated with stigmatization of persons with mental illness. *Psychiatric Services*, 55(2), 185-187.
- McBride, C., & Bagby, R.M. (2006). Rumination and interpersonal dependency: Explaining women's vulnerability to depression. *Canadian Psychology*, 47(3), 184-194.
- Mendelsohn, M. & Sewell, K. W. (2004). Social attitudes toward traumatized men and women: A vignette study. *Journal of Traumatic Stress*, 17(2), 103-111.

- Nolen-Hoeksema, S. (1990). *Sex Differences in Depression*. Stanford, CA: Stanford University Press.
- Olf, M., Langeland, W., Draijer, N., & Gersons, B.P. (2007). Gender differences in posttraumatic stress disorder. *Psychological Bulletin*, *133*, 183-204.
- Pierce, P.F. (2006). The role of women in the military. In T. W. Britt, A. B. Adler, & C. A. Castro (Series Eds.), *Military life: Vol. 4. Military Culture* (1st ed., pp. 97-118). Westport, CT: Praeger Security International.
- Robertson, J., & Fitzgerald, L. F. (1990). The (mis)treatment of men: Effects of client gender role and life-style on diagnosis and attribution of pathology. *Journal of Counseling Psychology*, *37*, 3-9.
- Schnittker, J. (2000). Gender and reactions to psychological problems: An examination of social tolerance and perceived dangerousness. *Journal of Health and Social Behavior*, *41*, 224-240.
- Schur, E. M. (1984). *Labeling Women Deviant: Gender, stigma, and social control*. New York: Random House.
- Scott, W. J. (1990). PTSD in DSM-III: A case in the politics of a diagnosis and disease. *Social Problems*, *37*(3), 294-310.
- Seal, K., Metzler, T., Gima, K., Bertenthal, D., Maguen, S., & Marmar, C. (in press). Increasing Prevalence of Mental Disorders among Iraq and Afghanistan Veterans: Trends and Risk Factors for Mental Health Diagnoses in New Users of VA Healthcare, 2002-2008. *American Journal of Public Health*.
- Shields, S. A. (1975). Functionalism, darwinism, and the psychology of women. *American Psychologist*, *30*, 739-754.
- Steele, C. M., Spencer, S. J., & Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 34, pp. 379-440). San Diego, CA: Academic Press.
- Tanielian, T., Jaycox, L. H., Adamson, D. M., & Metscher, K. N. (2008). Introduction. In T. Tanielian & L. H. Jaycox (Eds.), *Invisible wounds of war: psychological and cognitive injuries, consequences, and services to assist recovery* (pp. 3-17). Santa Monica, CA: RAND Corporation.

- Tanielian, T., Jaycox, L. H., Schell, T. L., Marshall, G. N., & Vaiana, M. E. (2008). Treating invisible wounds of war: Conclusions and recommendations. In T. Tanielian & L. H. Jaycox (Eds.), *Invisible wounds of war: psychological and cognitive injuries, consequences, and services to assist recovery* (pp. 431-453). Santa Monica, CA: RAND Corporation.
- Tversky, A., & Kahneman, D. (1973). Availability: a heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207-232.
- Warner, C. H., Appenzeller, G. N., Mullen, K., Warner, C. M., & Grieger, T. (2008). Soldier attitudes toward mental health screening and seeking care upon return from combat. *Military Medicine*, 173, 563-569.
- Weathers, F. W., Litz, B. T., Herman, J. A., Huska, J. A., & Keane, T. M. (1993, November). *The PTSD Checklist (PCL): Reliability, validity and diagnostic utility*. Paper presented at the 9th Annual Conference of the International Society for Traumatic Stress Studies, San Antonio, TX.

Appendices

Appendix A
Demographic Questionnaire

The following is a series of questions about yourself and your background. Read each question and mark or write the appropriate response. Please do not leave any statements blank. This information will remain anonymous and confidential. Please answer each question to the best of your ability.

1. What is your gender? Male Female

2. What is your age? _____

3. What is the highest level of education you have completed?

- High School Some graduate study
- Some college Master's degree
- Associate's degree Bachelor's degree
- Other

4. What is your ethnic background?

- African American
- Native American
- Asian/Pacific Islander
- Hispanic
- Caucasian
- Other _____

- 5. Have you ever sought help from a mental health professional? Yes No
- 6. Has a member of your family or someone close to you sought help from a mental health professional? Yes No
- 7. Have you ever been diagnosed with a mental health problem? Yes No
- 8. Has a member of your family or someone close to you ever been diagnosed with a mental health problem? Yes No
- 9. Do you agree with the United States' current involvement in Iraq? Yes No
- 10. Are you a veteran or a member of the United States Armed forces? Yes No
- 11. Are you a veteran of the Iraq War? Yes No

Appendix B

Crowne-Marlowe Measure of Social Desirability

The following is a series of questions about yourself and your background. Read each question and mark or write the appropriate response. Please do not leave any statements blank. This information will remain anonymous and confidential. Please answer each question to the best of your ability.

1. Before voting I thoroughly investigate the qualifications of all the candidates.	<input type="checkbox"/> True <input type="checkbox"/> False
2. I never hesitate to go out of my way to help someone in trouble.	<input type="checkbox"/> True <input type="checkbox"/> False
3. It is sometimes hard for me to go on with my work if I am not encouraged.	<input type="checkbox"/> True <input type="checkbox"/> False
4. I have never intensely disliked anyone.	<input type="checkbox"/> True <input type="checkbox"/> False
5. On occasion I have had doubts about my ability to succeed in life.	<input type="checkbox"/> True <input type="checkbox"/> False
6. I sometimes feel resentful when I don't get my way.	<input type="checkbox"/> True <input type="checkbox"/> False
7. I am always careful about my manner of dress.	<input type="checkbox"/> True <input type="checkbox"/> False
8. My table manners at home are as good as when I eat out in a restaurant.	<input type="checkbox"/> True <input type="checkbox"/> False
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.	<input type="checkbox"/> True <input type="checkbox"/> False
10. On a few occasions, I have given up doing something because I thought too little of my ability.	<input type="checkbox"/> True <input type="checkbox"/> False
11. I like to gossip at times.	<input type="checkbox"/> True <input type="checkbox"/> False
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.	<input type="checkbox"/> True <input type="checkbox"/> False
13. No matter who I am talking to, I'm always a good listener.	<input type="checkbox"/> True <input type="checkbox"/> False
14. I can remember "playing sick" to get out of something.	<input type="checkbox"/> True <input type="checkbox"/> False
15. There have been occasions when I took advantage of someone.	<input type="checkbox"/> True <input type="checkbox"/> False
16. I'm always willing to admit it when I make a mistake.	<input type="checkbox"/> True <input type="checkbox"/> False
17. I always try to practice what I preach.	<input type="checkbox"/> True <input type="checkbox"/> False
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	<input type="checkbox"/> True <input type="checkbox"/> False
19. I sometimes try to get even, rather than forgive and forget.	<input type="checkbox"/> True <input type="checkbox"/> False
20. When I don't know something I don't at all mind admitting it.	<input type="checkbox"/> True <input type="checkbox"/> False

21. I am always courteous, even to people who are disagreeable.	<input type="checkbox"/> True <input type="checkbox"/> False
22. At times I have really insisted on having things my own way.	<input type="checkbox"/> True <input type="checkbox"/> False
23. There have been occasions when I felt like smashing things.	<input type="checkbox"/> True <input type="checkbox"/> False
24. I would never think of letting someone else be punished for my wrongdoings.	<input type="checkbox"/> True <input type="checkbox"/> False
25. I never resent being asked to return a favor.	<input type="checkbox"/> True <input type="checkbox"/> False
26. I have never been irked when people expressed ideas very different from my own.	<input type="checkbox"/> True <input type="checkbox"/> False
27. I never make a long trip without checking the safety of my car.	<input type="checkbox"/> True <input type="checkbox"/> False
28. There have been times when I was quite jealous of the good fortune of others.	<input type="checkbox"/> True <input type="checkbox"/> False
29. I have almost never felt the urge to tell someone off.	<input type="checkbox"/> True <input type="checkbox"/> False
30. I am sometimes irritated by people who ask favors of me.	<input type="checkbox"/> True <input type="checkbox"/> False
31. I have never felt that I was punished without cause.	<input type="checkbox"/> True <input type="checkbox"/> False
32. I have never deliberately said something that hurt someone's feelings.	<input type="checkbox"/> True <input type="checkbox"/> False

Appendix C
Clinical Vignettes

Vignette 1. John with major depressive disorder

John is a private in the army and returned home from Iraq 2 months ago. During his tour of duty he experienced a considerable amount of combat exposure and also witnessed his best friend being killed. For the past month John has been feeling really down. He wakes up in the morning with a flat, heavy feeling that sticks with him all day long. He isn't enjoying things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make him happy. He pushes through his days, but it is really hard. The smallest tasks are difficult to accomplish. He finds it hard to concentrate on anything. He feels out of energy and out of steam. Even though John feels tired, when night comes he can't go to sleep. John feels pretty worthless and discouraged. John's family has noticed that he hasn't been himself for the past month, and that he has pulled away from them. John just doesn't feel like talking. John has been diagnosed with major depressive disorder.

Vignette 2. Jane with major depressive disorder

Jane is a private in the army and returned home from Iraq 2 months ago. During her tour of duty she experienced a considerable amount of combat exposure and also witnessed her best friend being killed. For the past month Jane has been feeling really down. She wakes up in the morning with a flat, heavy feeling that sticks with her all day long. She isn't enjoying things the way she normally would. In fact, nothing gives her pleasure. Even when good things happen, they don't seem to make her happy. She pushes through her days, but it is really hard. The smallest tasks are difficult to accomplish. She finds it hard to concentrate on anything. She feels out of energy and out of steam. Even though Jane feels tired, when night comes she can't go to sleep. Jane feels pretty worthless and discouraged. Jane's family has noticed that she hasn't been herself for the past month, and that she has pulled away from them. Jane just doesn't feel like talking. Jane has been diagnosed with major depression disorder.

Vignette 3. John with posttraumatic stress disorder

John is a private in the army and returned home from Iraq 2 months ago. During his tour of duty he experienced a considerable amount of combat exposure and also witnessed his best friend being killed. One month after arriving home he began having flashbacks from combat as if he never left. He began feeling nervous and agitated, and fears about his family's safety consumed him. He walks around his house at night checking the locks on the windows and doors to ensure the safety of his family. John also has had trouble sleeping at night, waking with nightmares about his best friend's death. He felt like it was his fault he died, that he should have been able to prevent it. John stopped meeting with his friends from the army because they remind him of his traumatic experiences in Iraq. John is suffering from feelings of emptiness and detachment and his family and friends are growing concerned about him. But John doesn't feel like talking. John has been diagnosed with posttraumatic stress disorder.

Vignette 4. Jane with posttraumatic stress disorder

Jane is a private in the army and returned home from Iraq 2 months ago. During her tour of duty she experienced a considerable amount of combat exposure and also witnessed her best friend being killed. One month after arriving home she began having flashbacks from combat as if she never left. She began feeling nervous and agitated, and fears about her family's safety consumed her. She walks around her house at night checking the locks on the windows and doors to ensure the safety of her family. Jane also has had trouble sleeping at night, waking with nightmares about her best friend's death. She felt like it was her fault she died, that she should have been able to prevent it. Jane stopped meeting with her friends from the army because they remind her of the traumatic experiences in Iraq. Jane is suffering from feelings of emptiness and detachment and her family and friends are growing concerned about her. But Jane doesn't feel like talking. Jane has been diagnosed with posttraumatic stress disorder.

Vignette 5. John with chronic back pain disorder

John is a private in the army and returned home from Iraq 2 months ago. During his tour of duty he experienced a considerable amount of combat exposure and witnessed his best friend being killed. For the past month John has been experiencing pain in his back. The injury was sustained while deployed in Iraq by a roadside bomb. Since the initial injury, the pain comes and goes. The more stress he experiences the more his back hurts. The pain has been interfering in his work so he has been put on light duty and has had to miss several days of work because of the pain. Additionally, John's back pain has minimized his ability to do chores around the house, care for his children, and forced him to discontinue his usual recreational activities. This causes him to feel frustrated and worthless. Although the pain causes him great distress, he doesn't feel like talking about it. Family and friends are growing more concerned about John because he doesn't seem like himself. John has been diagnosed with chronic back pain disorder.

Vignette 5. Jane with chronic back pain disorder

Jane is a private in the army and returned home from Iraq 2 months ago. During her tour of duty she experienced a considerable amount of combat exposure and witnessed her best friend being killed. For the past month Jane has been experiencing pain in her back. The injury was sustained while deployed in Iraq by a roadside bomb. Since the initial injury, the pain comes and goes. The more stress she experiences the more her back hurts. The pain has been interfering in her work so she has been put on light duty and has had to miss several days of work because of the pain. Additionally, Jane's back pain has minimized her ability to do chores around the house, care for her children, and forced her to discontinue her usual recreational activities. This causes her to feel frustrated and worthless. Although the pain causes her great distress, she doesn't feel like talking about it. Family and friends are growing more concerned about Jane because she doesn't seem like herself. Jane has been diagnosed with chronic back pain disorder.

Appendix D
Measure of Stigmatization

After reading the brief story about Jane, answer the following questions. Using the four-point scale below, mark the appropriate number corresponding to your beliefs about Jane. Please do not leave any statements blank. Select just one number for each statement.

(1) Definitely Willing (2) Somewhat Willing (3) Somewhat Unwilling (4) Definitely Unwilling

1. How willing would you be to work with a person like Jane?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
2. How willing would you be to move next door to a person like Jane?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3. How willing would you be to make friends with a person like Jane?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
4. How willing would you be to recommend a person like Jane for a job?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
5. How willing would you be to accept your child to marry a person like Jane?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
6. How willing would you be to rent a room to a person like Jane?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
7. How willing would you be to trust a person like Jane to take care of your child?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

8. How likely is it that Jane would do something violent toward other people?

Very Likely Somewhat Likely Somewhat Unlikely Very Unlikely

Were there circumstances with respect to this experiment, the experimenter, or events in your life that influenced your responses? If yes, please explain:

After reading the brief story about John, answer the following questions. Using the four-point scale below, mark the appropriate number corresponding to your beliefs about John. Please do not leave any statements blank. Select just one number for each statement.

(1) Definitely Willing (2) Somewhat Willing (3) Somewhat Unwilling (4) Definitely Unwilling

8. How willing would you be to work with a person like John?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
9. How willing would you be to move next door to a person like John?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
10. How willing would you be to make friends with a person like John?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
11. How willing would you be to recommend a person like John for a job?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
12. How willing would you be to accept your child to marry a person like John?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
13. How willing would you be to rent a room to a person like John?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
14. How willing would you be to trust a person like John to take care of your child?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

8. How likely is it that John would do something violent toward other people?

Very Likely Somewhat Likely Somewhat Unlikely Very Unlikely

Were there circumstances with respect to this experiment, the experimenter, or events in your life that influenced your responses. If yes, please explain:

Appendix E
Consent Form

**Consent Form for
Social Attitudes toward Iraq War veterans**

Purpose of this Study

We are inviting you to take part in a research study evaluating social attitudes of male and female Iraq War veterans diagnosed with depression, post-traumatic stress disorder, and chronic back pain. Your participation in this study will not be monetarily compensated. The study is being conducted by Melissa Daoud, a graduate student in Experimental Psychology.

What Will Happen During the Study?

You will be asked to complete a brief questionnaire that will take approximately 10-15 minutes to complete. It is up to the instructor's discretion to offer optional extra credit for participating in this study. Alternatives for earning extra credit may also be provided by the instructor.

Your Privacy is Important

Information obtained in this study will be completely anonymous. All of the data you provide will be treated as confidential. Although publication of this study may occur, no information that could identify you will be included.

If you have any questions regarding this study, please contact:

Annabel Prins, Ph.D. (408-924-5671; aprins@email.sjsu.edu) or
Melissa Daoud (408-557-8384; melissa.daoud@sbcglobal.net)

Risks and Discomforts

There are no anticipated risks or discomforts associated with completing this survey.

Your Rights

Participation in this study is completely voluntary. You are free to refuse to participate or to withdraw from the study at any time without penalty and without jeopardy. If you have any complaints about this study, you may contact the Chair of the department of Psychology:

Sheila Bienenfeld, Ph.D. (408-924-5642; sbienenf@email.sjsu.edu)

Institutional Review Board Approval

The Institutional Review Board (IRB) of San Jose State University has reviewed and approved this study. If you have any concerns about your rights in this study you may contact the Associate Vice President, Graduate Studies and Research:

Pamela Stacks, Ph.D. (408-924-2480; pstacks@jupiter.sjsu.edu)

I have had the opportunity to ask questions I may have about this study, and they have been answered for me. I have read the above information, and I agree to be in the study. I understand that will obtain a copy of this consent form after I sign it.

(Participant's Printed Name)

(Date)

(Signature of Participant)

(Signature of Researcher)

(Date)

Appendix F
Debriefing Form

Stigmatization of Iraq War Veterans with PTSD, Depression, or Chronic Back Pain

Combat is known to do both physical and psychological damage in soldiers. Therefore, access to care is essential to help soldiers acclimate to civilian life. Research has indicated that Iraq War Veterans are not getting the health care that they need. One possible explanation for this is negative social attitudes towards and perceived dangerousness of Iraq War Veterans.

The purpose of this study is to assess the social attitudes of male and female Iraq War veterans diagnosed with posttraumatic stress disorder (PTSD), depression, or chronic back pain. Based on past research it is expected that Iraq War Veterans with PTSD will be viewed most negatively followed by those with depression and chronic back pain. Additionally, it is expected that regardless of diagnosis, male Iraq War Veterans will be socially viewed more negatively than female Iraq War Veterans.

This study is important because it can help determine if negative social attitudes toward Iraq War Veterans exist. This is a significant step in identifying barriers to care for Iraq War Veterans.

Information obtained in this study will be completely anonymous. All of the data you provided will be treated as confidential. Although publication of this study may occur, no information that could identify you will be included. In return, we want you to honor our confidentiality -- please do not tell anyone about the details of this study. If the other students know about the study before they participate, their data will be biased and thus cannot be included. If you have any questions or comments regarding this study, please contact:

Annabel Prins, Ph.D. (408-924-5671; aprins@email.sjsu.edu) or
Melissa Daoud (408-557-8384; melissa.daoud@sbcglobal.net)

If you have any complaints about this study, you may contact the Chair of the Department of Psychology: Sheila Bienenfeld, Ph.D. (408-924-5642; sbienenf@email.sjsu.edu). Also, if you would like to talk with a counselor about some of the issues raised in today's study, you may contact Counseling Services (408) 924-5910.