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AN EMPIRICAL EXAMINATION OF STIGMA TOWARD MENTAL HEALTH PROBLEMS AND TREATMENT USE IN VETERANS

by

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submitted in partial fulfillment

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To the Graduate Faculty:

The members of the committee appointed to examine the thesis of Jonathan Goode find it satisfactory and recommend that it be accepted.

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Abstract

Many veterans in need of help do not receive psychotherapy. This study investigated the relationship between actual and perceived stigma toward mental health issues and psychotherapy, and attitudes toward treatment seeking in the veteran population. We asked veterans to report their own feelings and predict others' opinions concerning a vignette of a fictional veteran depicted as having a mental health issue or seeking psychotherapy. We found that veteran participants held more negative attitudes and perceived others as holding more negative attitudes toward the veteran depicted as having a mental health issue, but not toward the veteran who was seeking psychotherapy. We also found that the relationship between perceived stigma in the population and attitudes toward treatment-seeking was partially mediated by self-stigma. Finally, ratings of perceptions of others' opinions of the veteran were more negative than ratings of the participants themselves. Interventions focusing on self-stigma may help treatment seeking among veterans.

An Empirical Examination of Stigma toward Mental Health Problems and Treatment Use in Veterans

Introduction

Mental Health Problems in Veterans

The Department of Veterans Affairs (2012) has estimated that approximately 22 veterans die by suicide each day in the United States – that is approximately one veteran per hour or 8,030 every year. Although shocking, this number is perhaps not surprising given the results from nationwide surveys that have indicated that a large percentage of military veterans experience or will experience a mental health problem at some point in their life (Elliot et al., 2015; Hoge, et al., 2004; Tsai, et al., 2015). For example, in one anonymous online survey of U.S. veterans returning from Iraq or Afghanistan, Hoge and colleagues (2004) found that between 14.2% and 15.2% of participants experienced symptoms meeting criteria for Major Depressive Disorder, between 15.7% and 17.5% for an anxiety disorder, between 11.5% and 19.9% for PTSD, and between 24.5% and 35.4% for alcohol misuse. In another more recent large scale study, Cohen et al. (2010) analyzed VA healthcare data from veterans who served in Operation Enduring Freedom or Operation Iraqi Freedom and sought healthcare at a VA hospital. They found that 21.5% of the veterans in their sample met criteria for post-traumatic stress disorder (PTSD), 18.3% depression, 11.1% an adjustment disorder, 10.6% an anxiety disorder, 8.4% a non-alcohol substance use disorder, and 7.3% an alcohol use disorder. Similar rates of mental health problems for veterans have been reported in several other studies (Lang, Veazey-Morris, Berline, & Andrasik, 2016; Quartana, 2014; Seal et al., 2010).

Research indicates that when veterans experience a mental health problem, the disorder also has impacts on their family members and society as a whole. Military spouses in particular are at risk for developing psychopathology, and may even be at risk of developing symptoms similar to their partners. In fact, Ahmadi, Azampoor-Afshar, Karami, and Mokhtari (2011) found that the severity of PTSD suffered by a military member was significantly correlated with the degree of secondary trauma stress in their spouse. Additionally, Campbell and Renshaw (2012) found that spouses of Vietnam veterans were more likely to show secondary traumatic stress symptoms if their spouse scored within the clinical range for PTSD. Children of veterans can also experience negative effects when their parents suffer from mental health problems. In one study, Lauterbach and collegues (2007) found that increased avoidance/numbing PTSD symptoms in a veteran parent were associated with poorer relationships and more aggression between the parents and their children. Furthermore, when veterans experience an untreated mental health problem there can also be a cost to society at large. For instance, Greenberg and Rosenheck (2009) found that incarcerated veterans were more likely to endorse mental health problems than non-incarcerated veterans, suggesting that mental health disorders are a risk factor for incarceration in this population. In fact, Finlay et al. (2015) found that among incarcerated veterans, 57% were suffering from a mental health disorder. Considering that more than 131,000 veterans are incarcerated in prisons in the United States (LePage, Bradshaw, Cipher, Crawford, & Parish-Johnson, 2016), veteran mental health issues are perhaps imposing a significant burden on societal resources.

Psychological Help-seeking in Veterans

Given the prevalence of mental health problems in veterans, and the impacts that these problems can have on their lives, their family members, and on society, it is important that we investigate methods for better addressing these issues through treatment. Over a century of research has come to establish psychotherapy as an effective intervention for mental health problems (American Psychological Association, 2013; Campbell, Norcross, Vasquez, & Kaslow, 2013; Lambert, 2013). This research has shown that individuals who use psychotherapy show greater improvements and have a greater likelihood of recovery compared to individuals who receive no treatment at all (Lambert, 2013). This research has also shown that psychotherapy is at least as effective as other types of treatments (i.e., medication, self-help groups) for most psychological disorders (Lambert, 2013). Further, the efficacy of psychotherapy has been demonstrated across client types (Bohart & Wade, 2013). Additionally, several forms of psychotherapy have been shown to be effective in treating psychopathology in veterans, including psychodynamic and cognitive behavioral therapy for PTSD (Levi, Bar-Haim, Kreiss, & Fruchter, 2016), Seeking Safety for substance use and comorbid PTSD (Boden et al., 2012), and Acceptance and Commitment Therapy for depression (Karlin, et al., 2013).

Although various forms of psychotherapy have been shown to be effective in treating mental health disorders in military veterans, research indicates that many veterans who experience mental health problems do not seek out any form of professional psychological help (Elbogen et al., 2013; Hoge et al., 2004; Tsai et al., 2015). In one study that included 22,627 veterans, Quartana et al. (2014) found that only about 40% of those with mental health problems received some form of mental health treatment. In this study the researchers also found that only 50% of veterans followed through when a specific referral to a mental health specialist was made. An even smaller rate of mental

health service use was found in another study conducted by Iversen and colleagues (2009). They found that among members of the United Kingdom military, fewer than 25% of veterans with a diagnosable mental health disorder sought out professional psychological help.

The purpose of this study is to gain a better understanding of some of the barriers to seeking out mental health treatment in veterans. Specifically, using a veteran sample, this study aims to investigate the role of stigma toward mental health problems and psychological help-seeking. Although the effects of stigma on helping-seeking attitudes and behaviors has been extensively studied in the general population, less research on stigma has been conducted with veterans. The research that has been conducted, which will be reviewed later in the document, has primarily existed of simple surveys asking veterans if stigma is a significant barrier to seeking mental health help (Blais, Tsai, Southwick, & Pietrzak, 2015; Boyd, Juanamarga, & Hashemi, 2015; Brown & Bruce, 2015; DeViva, 2015; Hoge et al., 2004). Further research using an experimental design to examine stigma toward mental-health help-seeking in veterans is needed.

Stigma and Psychological Help-seeking

Definitions of stigma. Stigma has been historically defined as the process of reducing views of an individual from being "a whole and usual person to a tainted or discounted one" because they possess an attribute or engage in a behavior that is seen as "deeply discrediting" (Goffman, 1963; p. 12). More recently, Corrigan, Druss, and Perlick, (2014) defined stigma as "a set of negative beliefs that people hold about another individual or group of individuals" based on characteristics or behaviors, and more specifically, mental health stigma as "a set of negative, and often unfair, prejudices about people who suffer from mental health conditions" (p. 1). Central to these definitions is

the idea that stigma is the belief that individuals who possess certain undesirable characteristics are evaluated more negatively because of those characteristics. Stigma is similar to other constructs such as prejudice, discrimination, and stereotyping; however, it is different in that stigma is a general negative attitude that underlies the negative beliefs and actions associated with prejudice, discrimination, and stereotyping.

Types of stigma. There are several variations of stigma, including public stigma, perceived public stigma, and self-stigma. *Public stigma* is defined as negative attitudes that are evident in the general population toward individuals who belong to "unwanted" groups, possess "objectionable" characteristics, or engage in "undesirable" behaviors (Brohan, Elgie, Sartorius, & Thornicroft, 2010). This type of stigma can show up in several different ways, including stereotyping, separation, discrimination, labeling, status differentiation, and prejudice (Corrigan & Watson, 2006; Link & Phelan, 2001). According to Link and Phelan (2001), the attribution of negative stereotypes to stigmatized individuals serves to separate them from the population as a whole. By separating certain individuals from the whole, an "out group" is created, which can be discriminated against by the non-stigmatized population without negative social consequences. An example of this is seen in the labels used for mental health problems - an individual with cancer "has cancer," but an individual diagnosed with schizophrenia is often referred to as "schizophrenic" (Link & Phelan, 2001).

Perceived public stigma is defined as an individual's thoughts about how most people perceive individuals that belong to a stigmatized group (Van Brakel et al., 2006). Perceptions of public stigma often result in feelings of embarrassment, shame, or deviance for individuals who belong to the stigmatized group (Mickelson, 2001). These stigmatized individuals frequently also project the same feelings onto others that belong

to their own stigmatized group. Further, MacDonald and Anderson (1984) point out that perceptions of public stigma often result in a restriction of social activity, particularly with those outside of the stigmatized group. It is important to note that although perceived public stigma is usually the result of actual public stigma, perceived public stigma can also exist in the absence of actual public stigma. This may occur when an individual's perceptions are based on prior experiences in another setting, the historical existence of public stigma in the current environment, or the presence of stigma in salient individuals from the population, even though the population as a whole does not hold the stigmatizing beliefs.

Last, *self-stigma* is the tendency for an individual member of a stigmatized group to experience negative attitudes (e.g., lower self-esteem, loss of dignity, fear, shame, guilt) toward himself or herself for belonging to the stigmatized group or for possessing the stigmatized characteristics (Van Brakel et al., 2006). Several researchers have suggested that self-stigma involves the internalization of stigmatizing ideas which are widely accepted by the general public (Corrigan & Watson, 2006; Kroska & Harkness, 2008; Mak et al., 2015). Specifically, Corrigan and Watson (2006) described a process in which stigmatized individuals first recognize the negative beliefs that they believe are present in the public, they then come to agree with or internalize the negative beliefs, which results in self-discrimination or negative attitudes toward the self for possessing the undesirable characteristics.

The distinctions between public stigma, perceived public stigma, and self-stigma are important to consider when analyzing their effects. First, as mentioned earlier, perceived public stigma can be present even in the absence of actual public stigma. That is, an individual may feel stigmatized in spite of a lack of actual stigma beliefs in the

general population. It is important to note that an individual's perception of the presence of public stigma is enough to result in some of the negative effects of stigmatization, even if actual public stigma is not present. In contrast, it is possible that a member of an intensely stigmatized group may feel very little stigmatization, if they fail to perceive the actual stigma that exists in the population (Mickelson, 2001). Conversely, self-stigma does require the presence of either public stigma or the perceptions of public stigma in order for an individual to internalize feelings of stigmatization.

Research suggests that perceptions of public stigma toward mental health problems or seeking professional psychological help are related to attitudes toward seeking psychological help, but this relationship is partially mediated by the experience of self-stigma (Bathje & Pryor, 2011; Brown & Bruce, 2015; Clement et al., 2015; Corrigan & Watson, 2014; Elbogen et al., 2015; Evans-Lacko et al., 2012; Mendoza, Masuda, & Swartout, 2015; Vogel, Wade, & Haake 2006; see Figure 1). Consistent with the Theory of Planned Behavior (Ajzen, 1991; see Figure 2), attitudes toward seeking professional psychological help are then significantly related to help-seeking intentions; which, in turn, predict actual help-seeking behavior (Britt et al., 2011; Schomerus, Matschinger, & Angermeyer, 2009).

Stigma for Experiencing a Mental Health Problem. Although public, perceived public, and self-stigma can be found toward several different groups within our society based on age, gender, race/ethnicity, religion, and sexual orientation, to name a few, the focus of the current study is on stigma toward those with mental health disorders. Individuals with mental health disorders may experience stigma for simply having the mental health problem, but they may also experience stigma for seeking professional

psychological help for that problem. Both may result in less frequent help-seeking behavior (Boyd, Juanamarga, & Hashemi, 2015; Hoge et al., 2014).

Ample research exists suggesting that a significant amount of stigma toward those suffering from mental health problems does exist within our society (Kroska & Harkness, 2008; Link & Phelan, 2001; Link et al., 1999; Mak et al., 2015; Sadler, Kaye, & Vaughn, 2015). This type of stigmatization has been tested in several ways, including studies that asses a desire for greater social distance, studies that assess beliefs about violent tendencies of those with a mental health problem, and studies that seek to identify actual discrimination behaviors against individuals with a mental health problem. As an example of a study that used multiple of these methods for assessing stigma, Barry, McGinty, Vernick, and Webster (2013) investigated attitudes toward people suffering from mental illness through interviews following the shootings in Newtown, Connecticut. They found that around half of those surveyed believed that someone who is suffering from mental illness is more dangerous than someone from the general population. They also found that 31% believed that housing individuals with mental illness in a residential neighborhood would endanger the local residents. Finally, in this study, most respondents stated that they would be unwilling to have a person experiencing serious mental illness to begin working closely with them on the job or have them as neighbors.

In another study, Link and colleagues (1999) asked participants from the general population to rate their willingness to engage in various social activities with hypothetical individuals who were suffering from schizophrenia, depression, or substance abuse problems. Although participants expressed the greatest hesitancy about engaging in social relationships with individuals who had schizophrenia, participants expressed significantly more hesitancy for all of the disorders that were included in the study compared to the

control condition. Similar to the results from Barry et al.'s (2013) study, participants in the Link et al. study believed that those with a mental health problem would be dangerous.

Also using a method assessing willingness to engage in social relations, Pescosolido and colleagues (2010) compared public opinions from 1996 to 2006. Unfortunately, they found that stigma toward those with mental health problems may be increasing, with a greater percentage of the population being less willing to engage in social relationships with individuals who suffer from a psychological disorder. They also found that the majority of respondents believed that someone suffering from schizophrenia or alcohol dependence would be likely to engage in violent acts towards others.

In a more recent study, Gonzales, Davidoff, Nadal, and Yanos, (2015) investigated the occurrence of micro-aggressions experienced by individuals with a mental health problem. The researchers interviewed adult mental health consumers and asked them about their experiences with perceived micro-aggressions. The authors found that participants reported frequently experiencing invalidating events such as minimization, patronization, and assumptions of inferiority, such as being perceived as incompetent, unintelligent, or easily manipulated. Participants in this study also experienced instances in which they were assumed to be dangerous and unpredictable as a result of their mental status, which they reported resulted in decreased opportunities for social interaction with others and, in some cases, loss of employment after others learned about their mental illness. Similar results have been found in other studies that have used interview methods (Brain et al., 2014; Hamilton et al., 2014) and interestingly, research has found that implicit and explicit stigma toward mental health problems are present in

both the general population as well as in individuals who experience a mental health problem themselves (Teachman, Wilson, & Komarovskaya, 2006).

Unfortunately, one of the major consequences of stigma toward individuals with mental health problems is a decrease in treatment-seeking behavior when help is needed (Clement et al., 2015; Jennings et al., 2015). This finding is illustrated in a recent study by Jennings and colleagues (2015) who surveyed college students about their attitudes toward mental health problems and treatment-seeking. These researchers found that greater perceived public stigma was related to greater self-stigma, and that greater self-stigma was related to increased self-reliance and more negative attitudes toward treatment-seeking. In another study, Schomerus (2009) exposed participants to a vignette depicting depression and then asked participants questions regarding their readiness to seek psychiatric care if they were the experiencing the same depressive symptoms as well as their desire for social distance from the individual depicted in the vignette. Schomerus found that 68.9% of respondents said that they would "definitely not" or would be "rather unlikely" to seek help if they were suffering from depression. This study found that an anticipation of negative consequence was linked to the negative attitudes toward seeking professional psychological help. In other words, the perception of public stigma was a significant predictor of the participants' help-seeking attitudes.

Stigma for Seeking Professional Psychological Help. In addition to the stigma toward those who experience a mental health disorder, research has identified the presence of stigma toward those who seek professional psychological help (Ben-Porath, 2002). This stigma is different from stigma for having a mental health problem because treatment-seeking stigma impacts only those who actually attempt to seek help for their disorder. Thus, if an individual desires to get help, they frequently have to overcome

stigma for having the problem and stigma for seeking the professional help. Treatment-seeking stigma is associated with negative attitudes and discrimination toward individuals seeking therapeutic services simply as a result of seeking those services. This stigma can arise from negative feelings toward mental health treatments, service providers, beliefs about the origin of mental health problems, or beliefs about how mental health issues should be dealt with. Treatment-seeking stigma may also arise from cultural values, such as a preference for self-reliance or mistrust of mental health professionals (Samuel, 2015). For example, in a study of attitudes across cultures, Midlarsky, Pirutinsky, and Cohen (2012) found that non-Jewish white individuals reported greater preference for self-reliance and African American individuals reported less confidence in the ability of psychotherapists. These characteristics were significantly correlated to perceptions of stigma associated with seeking professional psychological help in these two racial/ethnic groups.

In one study, Ey, Henning, and Shaw (2000) examined the presence of stigma for treatment-seeking in a sample of medical and dental students. These researchers found that only 32% of students suffering from mental health issues were engaged in treatment. The most common reasons that the participating students endorsed for avoiding treatment were: possibly seeing people they knew while at the counselor's office (53.5%), worrying about what other students might think (45.5%), concerns regarding potentially working with their counselor in the future (35.1%), and worrying about what school faculty and family members would think (31% and 19.9% respectively). Each of these reasons demonstrate an experienced fear of being stigmatized for engaging in mental health treatment.

In another study, Ben-Porath (2002) exposed participants to one of four vignettes depicting an individual who varied on two variables: suffering either from a mental health disorder or back pain, and engaging in treatment or not. This researcher found that when the individual in the vignette was experiencing a mental health problem and seeking mental health treatment they were rated more emotionally unstable than when the individual was experiencing a mental health problem and not seeking treatment. Additionally, this condition was rated much worse than the individual who was seeking medical help for back pain.

Mental Health Stigma in Veterans

Given the presence of mental health problems in veterans (Hoge et al., 2014; Trivedi et al., 2015) and the fact that veterans frequently do not seek professional psychological help even when it is available to them (Blaise et al., 2015**;** Quartana et al., 2014), it is important that as a field we gain a better understanding of the stigma for mental health issues that is present in this group. Although the body of research examining stigma for mental health problems and psychological help-seeking behavior in veterans is much more limited than the research on these variables with other populations, some recent research with veterans does exist.

In one study with 276 Operation Enduring Freedom and Operation Iraqi Freedom veterans, Brown and Bruce (2015) asked participants to complete measures of public stigma, self-stigma, and career worry associated with seeking professional psychological help. They found that taken together, these three variables (plus symptomatology) significantly predicted participants' willingness to seek help when needed. However, career worry was the only significant unique predictor of willingness. Although the presence of career worry would also imply the presence of stigma, the study did not

report bivariate relationships with willingness. Thus, this study only suggests that stigma does not predict willingness above and beyond the prediction made by career worry. It may also be that career worry mediates the relationship between stigma and willingness to seek professional psychological help, but these researchers failed to examine any mediational relationships. In addition, a significant proportion of this sample had previously sought mental health treatment (52%), and it may be that these individuals perceived and experienced a lower degree of stigma than what might be seen in other veteran samples.

In another study with 97 Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn veterans, DeViva et al. (2015) surveyed participants immediately after they were referred for a mental health screening at a United States Department of Veterans Affairs (VA) medical center. These veterans had been referred to the clinic either on their own, or after they screened positive on a standard assessment for depression or PTSD that is used by the VA. The survey included measures of stigma, attitudes, and barriers to seeking mental health treatment, as well as several other potential predictors (e.g., social support, stress). Six months later, the researchers reviewed the medical charts of all participants to see which ones had gone on to meet with a mental health provider. The majority (64.95%) did access some form of psychotherapy over that six month period. They found that attitudes toward mental health treatment ($d = 0.52$) and perceptions of stigma ($d = 0.75$) did uniquely predict treatment use above and beyond the other variables in the model. Specifically, more positive attitudes and less perceived stigma were associated with a greater likelihood of treatment use. However, a major limitation of this study is that all of the participants had showed up for an initial mental health appointment, and it is essential that we also gain an

understanding of the attitudes and stigma held by all veterans, including those who might be more hesitant about seeking services.

Hoge et al. (2014) investigated mental health attitudes in veterans prior to and after returning from combat deployments to Iraq and Afghanistan. Participants were recruited from one Marine and three Army units and asked to complete surveys containing brief screening instruments for Major Depressive Disorder, PTSD, and Generalized Anxiety Disorder, as well as questionnaires regarding interest in services, previous/current use of mental health treatment, and barriers to care (particularly treatment-seeking stigma). Of the participants who screened positive for a mental health issue, only 23-40% had sought services. Those who screened positive for a mental health problem were found to be twice as likely to report concerns about stigmatization for having that mental health problem and/or seeking help. Unfortunately, Hoge and colleagues did not compare ratings of stigma between those who screened positive for a mental health problem and did seek help to those who screened positive, but did not seek help. So although this study did provide evidence that stigma does exist within a veteran population, it did not examine whether that stigma predicted attitudes toward seeking treatment.

In another study, Quartana et al. (2014) investigated trends in mental health service utilization and stigma among active duty soldiers during the wars in Iraq and Afghanistan. These researchers aggregated United States Army data from two different large-scale surveys (The Health-Related Behavior Survey and The Land Combat Study) which were administered to soldiers several times between 2002 and 2011. The results of this study indicated that utilization of mental health services among veterans both with and without mental health issues increased and stigma decreased over this time. This

finding does suggest some type of relationship between these two variables for veterans. Although the trends in service use had increased and stigma decreased over the course of the study, over half of the veterans who experienced a mental health problem still did not seek professional help and the majority of participants still reported a high level of fear of stigma associated with seeking mental health help. Additionally, the increase in mental health service use may not be due to a change in attitudes, but instead, may be due to the general increase in mental health diagnoses over the course of the wars in Iraq and Afghanistan for veterans.

More recently, Blais et al. (2015) investigated barriers and facilitators to mental health treatment utilization in veterans over the age of 60 using data from the 2011 National Health and Resilience in Veterans Study (NHRVS) survey (n = 2,025). This survey included measures designed to assess for mental health problems (PTSD, Major Depressive Disorder, drug dependence, and Generalized Anxiety Disorder), as well as questions about the use of psychotherapy or counseling and a measure of stigma toward seeking mental health care. Approximately 7% of the sample surveyed screened positive for a mental health disorder; however, only 25% of those who screened positive had sought out professional psychological help. In contrast to the results from the other studies that we have reviewed, they failed to find a significant relationship between perceptions of stigma and current utilization of a psychological treatment (*O.R.* = 0.85, p = .11). However, after controlling for demographic variables and duration of mental health problems, perceptions of stigma did become a significant predictor (*O.R.* = 0.80, p = .005).

In contrast to the preceding studies, Elbogen et al. (2015) actually found higher stigma beliefs among veterans who had previously sought out mental health treatment. In

this study, Elbogen and colleagues surveyed 1,388 Iraq and Afghanistan veterans to gain a better understanding of their mental health service use and perceived barriers. They found that 43% of the sample screened positive for PTSD, major depression, or alcohol abuse. Of those who screened positive, approximately 2/3 of them had received professional psychological help in the past year. They found that those who did not seek services were more likely to endorse a belief that individuals need to solve their own mental health problems; however, beliefs about stigma toward seeking help were more likely to be endorsed by those veterans who had used treatment in the past year. Given the study procedures and methods that were used, it is possible that these researchers found conflicting results because they assessed attitudes after the time period of their measurement of service use. So perhaps it was the participants' negative experiences in treatment that led to greater perceptions of stigma, rather than perceptions of greater stigma leading to service use.

In summary, a handful of studies have investigated the presence of stigma (public and self) and attitudes toward mental health problems and mental health help-seeking in veterans. These studies have produced mixed results (Elbogen et al., 2015); however, the general consensus of the findings indicate that a significant number of veterans do experience mental health problems (Blais et al., 2015; Hoge et al., 2014; Trivedi et al., 2015), but they do not always seek treatment for those mental health problems (Blais et al., 2015; Hoge et al., 2014; Quartana et al., 2014). These studies have indicated that many veterans do perceive a significant amount of stigma associated with mental health issues and seeking professional psychological help (Brown & Bruce 2015; DeViva et al., 2015; Hoge et al., 2014; Quartana et al., 2014). Further, in veterans, there is some evidence that this stigma may be preventing treatment-seeking behavior when it is needed

(Blais et al., 2015; Brown & Bruce 2015; DeViva et al. 2015). However, the existing research is limited given that the studies that have been conducted have all used a survey/correlational design. Without experimental manipulation, we are still uncertain whether veterans view other veterans more negatively if they experience a mental health problem or if they seek out professional psychological help. Further, although reporting levels of stigma and service use among veterans, the existing studies have failed to fully examine the relationships between perceived public stigma, self-stigma, and treatment-seeking attitudes in this population.

Aims of the Current Study

Although the effects of stigma on treatment seeking attitudes and behaviors has been extensively studied in the general population, less research has been conducted with veterans. The research that has been conducted has primarily included surveys directly asking veterans if stigma is a significant barrier to mental health treatment seeking (Blais, Tsai, Southwick, & Pietrzak; Boyd, Juanamarga, and Hashemi, 2015; Brown & Bruce, 2015; DeViva, 2015; Hoge et al., 2004). In contrast to the existing studies, the current study experimentally tested if stigma does exist within a veteran sample toward those who experience a mental health problem and toward those who seek psychotherapy as a mental health treatment. By using vignettes depicting a veteran who varied on two variables (treatment-seeking status and mental health problem status) we experimentally tested for the influence that these variables have on attitudes toward the veteran depicted, as well as their interaction. In addition, in this study also tested whether the relationship between perceptions of public stigma and attitudes toward psychotherapy in a veteran sample is mediated by the experience of self-stigma. The results from this study have the

potential to inform methods to improve treatment seeking for the thousands of veterans nation-wide who experience a mental health need.

Hypothesis 1. We hypothesized that both treatment seeking status and mental health status would significantly impact attitudes toward the veteran in the vignette. More specifically, we hypothesized that the participants would rate the veteran in the vignette more negatively on the outcome measures (public stigma, perceived discrimination and devaluation, willingness to engage in social relationships, and willingness to engage in military relationships) if the veteran was described as experiencing a mental health problem or as seeking out professional psychological help. Previous research has indicated that veterans endorse stigma for both experiencing a mental health disorder and for seeking treatment (Brown & Bruce 2015; DeViva et al., 2015; Hoge et al., 2014; Quartana et al., 2014). Therefore, it was expected that the veteran in the vignette who was described as not experiencing a mental health problem and not seeking psychological help would be rated most positively, followed by the veteran who is not experiencing a mental health problem and is seeking psychological help (for personal exploration and growth), followed by the veteran who is experiencing a mental health problem and not seeking psychological help, followed last by the veteran who is experiencing a mental health problem and is seeking psychological help (see Figure 3). However, we also recognized that a significant interaction might exist, where treatment seeking may actually be seen as a strength if there is a mental health need (see Figure 4).

Hypothesis 2. We hypothesized that the relationship between general perceptions of public stigma for seeking help and attitudes toward seeking professional psychological help would be mediated by experiences of self-stigma. Previous research has indicated a mediational relationship between perceived public stigma and attitudes toward treatment

seeking (mediated by self-stigma) in other populations (Blais et al., 2015; Brown & Bruce 2015; DeViva et al. 2015). Thus a similar pattern of associations was expected in our veteran sample. Specifically, veterans who endorsed higher levels of perceived public stigma were expected to also endorse higher levels of self-stigma and more negative attitudes toward seeking professional psychological help.

Hypothesis 3. We hypothesized that there would be significant differences between ratings of veterans who were depicted as experiencing a mental health problem or seeking treatment depending on if the rating represented one's own attitudes or if it represented attitudes believed to be held by other military personnel. Specifically, given the perception of negative attitudes toward mental health concerns in the military, we hypothesized that the public stigma ratings will be more negative when participants completed the measures thinking about how others might view the veteran.

Method

Participants

The sampling frame of veterans for this study was obtained through the Idaho State University Veteran Student Services Center. The Veteran Student Services Center is a campus organization which assists university student veterans with academic and life/adjustment issues. The director of the Veteran Student Services Center had a list of contact information for approximately 2,000 veterans who were currently or previously affiliated with the University. We shared the study plan with the director and he was willing to share the list with us for this study.

Once the contact information for the veterans was obtained from the Veteran Student Service Center, a recruitment email was sent to individuals on the list where email contact information was included. The recruitment email (see Appendix A) described the general purposes of the study and the compensation for participation (individuals who completed the study and provided their contact information on a separate survey were entered into a drawing for one of 40 fifty-dollar amazon gift codes). The recruitment email also included a link for the online study. Interested participants were instructed to click on the link, which will took them to a full informed consent page (see Appendix B). The full study was conducted through Qualtrics, a secure online survey system.

We planned to recruit participants until 200 veterans had completed the study. Using G*Power (Faul & Erdfelder, 1992) a preliminary power analysis was conducted for the proposed analyses (see 2x2 Factorial ANOVA described in the Data Analysis Plan section), with an estimated medium effect size (.25) and a power of .80. Based on these parameters, the power analysis indicated that 179 participants would be needed to detect

significant results. Given the possibility of incomplete or unusable data (estimated at 10% based on similar studies previously conducted in our research lab), we stopped recruitment when we collected 195 participants.

Procedures

Veterans who were interested in participating in the study after reading the recruitment email were instructed to read an online informed consent page. The informed consent page included a brief description of the study, a description of the risks and benefits, and details about compensation. Only participants who indicated that they read the informed consent page, agreed to participate, were 18 years old or older, and were a veteran, were allowed to continue on to the rest of the online study. After providing informed consent, participants were asked to provide basic demographic information as well as military service history (see Appendix M) for the specific questions that were asked).

The participants were then randomized (using block randomization to ensure equal group sizes) into one of four vignette conditions (see Appendix L for the specific wording of the vignettes). The four vignettes described a fictional male veteran and included a picture of that veteran. The vignettes first described the veteran's demographics and service history (which were identical for all four conditions). The vignettes then included a description of the veteran's mental health status and psychological treatment seeking status. In the first condition, no mention of either a mental health problem or psychological treatment seeking were included. In the second condition the veteran was described as experiencing symptoms of general mental health issues, but as having decided to face the problems on his own without seeking out any type of professional help. In the third condition the veteran was described as seeking out

psychotherapy for personal growth reasons, even though he was not experiencing any type of mental health problems. In the fourth condition the veteran was described as experiencing symptoms of general mental health issues and as having decided to seek professional help for those problems from a psychotherapist.

Following exposure to the vignette, as a manipulation check, participants were asked three questions about the veteran that they read about. The questions asked them to identify the veteran's name, age range (which were both presented in the first sentence of the vignette), and area of deployment (which was presented immediately before the information on mental health status and professional service use). Participants who did not answer all three questions correctly were not be allowed to continue participating in the study. Those participants who did answer the manipulation questions correctly were then be asked about their willingness to engage in military and social activities with the veteran. Next, participants will be asked to complete a measure of perceptions of public stigma (Perceptions of Stigma by Others for Seeking Psychological Help; Vogel, Wade, & Ascheman, 2009) adapted to the vignette that they just read, once for their own attitudes and once for their perceptions of the attitudes of other military personal. Last, participants were asked to think about their attitudes toward mental health in general and to complete the perceived public stigma measure, a measure of self-stigma toward seeking mental health help, and a measure of attitudes toward seeking professional psychological help. After completing all measures, participants were shown a debriefing page where they could find information about the purposes of the study and contact information in case they had questions or would like to know the results once the study is completed. From the debriefing page, participants were provided with a link which

allowed them to connect to a separate survey where they could provide their contact information to enter into a drawing for one of the $50 Amazon gift codes.

Measures

Demographics and military service history (Appendix M). Participants were asked to provide a range of demographic data including age, gender identity, race/ethnicity, marital status, sexual orientation, educational level, and annual income. They were also asked information about their military service history, such as military branch (Army, Air Force, Marines, Navy, Coast Guard), military component while serving (Active duty, Guard, Reserve), rank, number of military deployments, years of service, years since discharge, conflicts served in, and if they have been in a combat situation. Last, they were asked about their own and their close family members'/friends' psychological history, including history of a mental health disorder, history having sought psychotherapy or counseling, and history taking medication for a psychological problem (these questions were included at the end of the survey so as not to prime them to pay particular attention to the mental health information in the vignette).

Questions regarding willingness to engage in social relationships (QRSR) and military relationships (QRMR). Similar to other studies on discrimination toward individuals with mental health problems, in this study we asked participants to rate their willingness/interest in engaging in various social relationships with the individual presented in the vignette (e.g., be friends with the person) (QRSR-Self), as well as their perceptions of other veteran's willingness to engage in those kinds of relationships (QRSR-Others). In addition, in this study also asked participants to rate their willingness to engage in various military specific relationships (i.e., be positioned next to you in a combat situation) with the veteran in the vignette (QRMR-Self), as well as their

perceptions of others' willingness to engage in those military relationships (QRMR-Others). Questions for these measures were drawn from Phillips' (1963) questionnaire regarding rejection of individuals with mental disorders. This measure consists of 10 items. Each item is rated on a five-point Likert-type scale, anchored at 1 = strongly disagree and 5 = strongly agree. Total scores on this measure, ranging from 10 to 50, are found by summing the ratings from each item, with higher scores indicating greater levels of rejection. The original 5-item measure was found by Phillips (1963) to have excellent reproducibility (.97). Five additional items were added to assess specifically for willingness to engage in military-specific activities with the veteran depicted in the vignette. Such activities include willingness to serve under the command of or alongside the veteran in the vignette. Overall, the modified measure queried about the participant's perceptions of the veteran in the vignette as well as beliefs about how other veterans would feel about the veteran in the vignette. The exact questions can be found in Appendices C, D, E, and F. Participants were asked to complete these questions two times, once indicating their willingness to engage in the social and military relationships with the veteran, once asking about their perceptions of other military personnel's willingness to engage in the social and military relationships.

Perceptions of Stigmatization by Others for Seeking Psychological Help scale (PSOSH). The PSOSH was developed by Vogel, Wade, and Ascheman (2009) as a measure of perceived negative public attitudes (stigma) toward those who seek professional psychological help. The measure includes 5 items. Each item is rated on a 5-point Likert-type scale, anchored at 1 (strongly disagree) and 5 (strongly agree). Total scores on this measure, ranging from 5 to 25, are found by summing the ratings on each item, with higher scores indicating greater perceived stigma. The overall internal

consistency ($\alpha = .89$) for the measure has been found to be stable across racial and ethnic groups (αs ranging from .83 to .90) (Vogel et al., 2009). In the same study, the test-retest reliability for the measure was shown to be adequate ($r = .82$) and concurrent/discriminate validity with a measure of self-stigma for seeking help was demonstrated.

In this study, the PSOSPH was administered three times. The first and second times (administered immediately after the vignette) were modified versions allowing the participants to rate their attitudes toward the veteran in the vignette and perceptions of attitudes held by other military personnel. The third time (administered toward the end of the survey) was an unmodified version to measure perceived stigma toward individuals who seek psychotherapy in general. See Appendices G, H, and I for the three versions.

Inventory of Attitudes toward Seeking Mental Health Services (IASMHS). The IASMHS (Mackenzie, Knox, Gekoski, & Macaulay, 2004) is a 24-item scale which measures individual's attitudes toward seeking professional psychological help for mental health problems. On this measure participants rate their response to each item on a 5-point Likert-type scale, anchored at 0 (strongly disagree) and 4 (strongly agree). Total scores on this measure, ranging from 0 to 96, are found by summing the ratings from each item, with higher scores indicating more positive attitudes toward treatment seeking. Mackenzie and colleagues (2004) have reported the internal consistency for the measure as $\alpha = .87$ and a test-retest reliability ranging between $r = .64$ and $r = .91$. Mackenzie and colleagues have also reported adequate predictive validity for the measure, indicating that it can differentiate between those who have and have not previously used mental health services, and those who would and would not seek services in the future. In this study

participants were asked to complete the measure just once, indicating their attitudes toward seeking professional psychological help generally (see Appendix J).

Self-stigma of Seeking Psychological Help (SSOSH). The SSOSH (Vogel, Wade, & Haake, 2006) is a 10-item measure of the attitudes individuals would hold toward themselves if they were to seek professional psychological help. Items on this measure are rated on a 5-point Likert-type scale, anchored at 1 (strongly disagree) and 5 (strongly agree). Total scores on this measure, ranging from 10 to 50, are found by summing the ratings from each item, with higher scores indicating a higher experience of self-stigma. Vogel and colleagues (2006) have reported adequate test-retest reliability (r = .72) and a high level of internal consistency (α = .90) for the measure. They also have reported good construct, criterion, and predictive validity, based on correlations of this measure with general attitudes toward and intentions to seek psychological help (Vogel et al., 2006). In this study, participants were asked to complete this measure just once, indicating their stigma toward themselves if they were to seek psychotherapy (see Appendix K).

Results

Data Checking/Cleaning

Outliers and incomplete/inaccurate data. Data was collected from 193 participants. We first checked the reverse-coded items for inconsistency in response patterns (e.g. scoring every item on a measure as the lowest or highest option). An inconsistent response pattern was not observed for any participants. We then looked at time spent on the survey to make sure an appropriate amount of time was spent reading and responding to the questions. We eliminated seven participants due to their taking less than 5 minutes to complete the entire survey. We also included three manipulation

questions regarding characteristics of the veteran depicted in the vignette to ensure the participants had read the vignette carefully. Sixteen participants were eliminated for incorrectly answering the manipulation questions. Last, five participants were removed for failing to complete any of the DV measures. With the remaining 165 participants, missingness of data was analyzed across and within scales to determine if missingness was random or not. We ran Little's MCAR test with the Expectation-Maximization method for participants who completed at least one DV. These analyses indicated that missing total score values for the variables were missing completely at random. Given the small number of missing scores and the amount of data that was obtained for each variable, we chose to base the analyses on the data that was provided only and subsequent analyses were conducted without replacement of the missing values. Outlier scores were then identified as scores that were more than 3.5 SDs higher or lower than the mean for that measure. Outliers were substituted with the next closest non-outlier value for the specific measure. Eight outlier scores were replaced in this way - two on the QRMR-Others, four on the PSOSH-Self, and two on the QRSR-Self.

Normal distribution checks. Normality was then checked for each of the DVs, the PSOSH-General, the SSOSH, and the IASMHS using the Shapiro-Wilk test of normality. Scores on the PSOSH-General were non-normally distributed ($p < .05$), with skewness of 1.02 ($SE = 0.19$) and kurtosis of 0.52 ($SE = 0.38$). Because the distribution was positively skewed and moderately leptokurtic, a logarhythmic transformation was performed to adjust the distribution. However, following transformation, the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Square-root and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the PSOSH-Self were non-normally distributed ($p < .05$), with skewness of 1.90 ($SE = 0.19$) and kurtosis of 2.79 ($SE = 0.37$). Because the distribution was positively skewed and moderately leptokurtic, a logarhythmic transformation was performed to adjust the distribution. However, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Square-root and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the PSOSH-Others were non-normally distributed ($p < .05$), with skewness of -0.49 ($SE = 0.19$) and kurtosis of 0.21 ($SE = 0.38$). Because the distribution was negatively skewed and slightly leptokurtic, a logarhythmic transformation was performed to adjust the distribution. However, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Square-root and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the QRMR-Self were non-normally distributed ($p < .05$), with skewness of -1.26 ($SE = 0.19$) and kurtosis of 1.35 ($SE = 0.37$). Because the distribution was negatively skewed and slightly leptokurtic, a logarhythmic transformation was performed to adjust the distribution. However, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Square-root and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the QRMR-Others were non-normally distributed ($p < .05$), with skewness of -0.50 ($SE = 0.19$) and kurtosis of -0.72 ($SE = 0.38$). Because the distribution was negatively skewed and slightly platykurtic, a logarhythmic transformation was

performed to adjust the distribution. However, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Square-root and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the QRSR-Self were non-normally distributed ($p < .05$), with skewness of -0.18 ($SE = 0.19$) and kurtosis of -0.59 ($SE = 0.37$). Because the distribution was negatively skewed and slightly platykurtic, a square root transformation was performed to adjust the distribution; however, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Log and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the QRSR-Others were non-normally distributed ($p < .05$), with skewness of -0.49 ($SE = 0.19$) and kurtosis of 0.27 ($SE = 0.38$). Because the distribution was negatively skewed and slightly leptokurtic, a square root transformation was performed to adjust the distribution. However, following transformation, the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Log and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the SSOSH were also non-normally distributed ($p < .05$) with skewness of 0.47 ($SE = 0.19$) and kurtosis of -0.50 ($SE = 0.38$). Because the distribution was positively skewed and slightly platykurtic, a square root transformation was performed to adjust the distribution; however; following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Log and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

Scores on the IASMHS were non-normally distributed ($p < .05$), with skewness of 1.06 ($SE = 0.19$) and kurtosis of -0.53 ($SE = 0.38$). Because the distribution was positively skewed and slightly platykurtic, a square root transformation was performed to adjust the distribution. However, following transformation the data was still not normally distributed based on the Shapiro-Wilk test of normality ($p < .05$). Log and inverse transformations were also attempted and did not result in a normal distribution ($p < .05$).

In summary, analyses indicated that none of the DVs, the PSOSH-General, the SSOSH, or the IASMHS were normally distributed. Transformations were made to each based on the shape of the observed distributions. The transformed variables were then checked for normality; however, all of the transformed variables were still non-normally distributed. Thus, for simplicity and ease of interpretation, we chose to use the non-transformed data for all analyses. Due to the violation of the assumption of normality for each of the DVs, all results of these analyses should be interpreted with caution.

Covariate checks. Next, responses to the demographic, service history, and mental health history questions, and total scores on the PSOSH-General, SSOSH, and IASMHS were compared between the experimental conditions. Differences between the experimental conditions on each scaled variable (interval or ratio data) was tested using a 2 x 2 between subjects factorial ANOVA. For participant age, no differences were found between the vignette mental health status conditions, $F(1,158) = 1.66$, $p > .05$, the vignette treatment seeking status conditions, $F(1,158) = 0.90$, $p > .05$, or their interaction, $F(1,158) = 0.60$, $p > .05$. For income, no differences were found between the vignette mental health conditions, $F(1,120) = 0.01$, $p > .05$, the vignette treatment seeking status conditions, $F(1,120) = 1.70$, $p > .05$, or their interaction, $F(1,120) = 1.82$, $p > .05$. For number of years served in the military, no differences were found between the vignette

mental health conditions, $F(1,161) = 0.07$, $p > .05$, the vignette treatment seeking status conditions, $F(1,162) = 1.95$, $p > .05$, or their interaction, $F(1,162) = 0.02$, $p > .05$. For years since separation from service, no differences were found between the vignette mental health conditions, $F(1,140) = 0.00$, $p > .05$, the vignette treatment seeking status conditions, $F(1,140) = 0.56$, $p > .05$, or their interaction, $F(1,140) = 0.00$, $p > .05$. For number of times deployed, no differences were found between the vignette mental health conditions, $F(1,160) = 0.08$, $p > .05$, the vignette treatment seeking status conditions, $F(1,160) = 1.51$, $p > .05$, or their interaction, $F(1,160) = 0.69$, $p > .05$. For time spent in a combat zone, no differences were found between the vignette mental health conditions, $F(1,161) = 0.99$, $p > .05$, the vignette treatment seeking status conditions, $F(1,161) = 0.18$, $p > .05$, or their interaction, $F(1,161) = 1.38$, $p > .05$.

For the PSOSH-General, no differences were found between the vignette mental health status conditions, $F(1,155) = 1.09$, $p > .05$, the vignette treatment seeking status conditions, $F(1,155) = 0.31$, $p > .05$, or their interaction, $F(1,155) = 0.77$, $p > .05$. For the SSOSH, no differences were found between the vignette mental health status conditions, $F(1,155) = 1.35$, $p > .05$, the vignette treatment seeking status conditions, $F(1,155) = 0.60$, $p > .05$, or their interaction, $F(1,155) = 0.12$, $p > .05$. For the IASMHS, no differences were found between the vignette mental health status conditions, $F(1,155) = 2.44$, $p > .05$, the vignette treatment seeking status conditions, $F(1,158) = 0.37$, $p > .05$, or their interaction, $F(1,158) = 0.34$, $p > .05$.

Differences between the experimental conditions on each categorical variable were tested with chi-square tests of independence. There were no significant differences in gender between the vignette mental health status conditions, $\chi^2 = 1.45$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 4.17$, $p > .05$. There were no significant

differences for race/ethnicity between the vignette mental health status conditions, $\chi^2 = 6.83$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 2.56$, $p > .05$. There were no significant differences based on education level between the vignette mental health status conditions, $\chi^2 = 3.63$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 4.17$, $p > .05$. There were no significant differences based on marital status between the vignette mental health status conditions, $\chi^2 = 7.33$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 3.59$, $p > .05$. There were no significant differences for employment status between the vignette mental health status conditions, $\chi^2 = 5.60$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 6.65$, $p > .05$.

There were no significant differences based on service branch between the vignette mental health status conditions, $\chi^2 = 3.03$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 1.78$, $p > .05$. There were no significant differences based on what operations the participant had served in between the vignette mental health status conditions, $\chi^2 = 5.00$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 11.71$, $p > .05$. There were no significant differences for whether the participant had been in combat between the vignette mental health status conditions, $\chi^2 = 0.07$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 0.00$, $p > .05$.

There were no significant differences based on whether participants were currently attending therapy between the vignette mental health status conditions, $\chi^2 = 0.69$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 1.31$, $p > .05$. There was no significant difference between whether they had ever attended therapy between the vignette mental health status conditions, $\chi^2 = 0.77$, $p > .05$, or the vignette treatment seeking conditions, $\chi^2 = 2.58$, $p > .05$. There were no significant differences for whether they had ever been diagnosed with a psychological disorder between the vignette mental

health status conditions, $\chi^2 = 0.05$, $p > .05$, or the vignette treatment seeking status conditions, $\chi^2 = 0.47$, $p > .05$. There were no significant differences between whether they had ever taken prescription medication for a psychological disorder between the vignette mental health status conditions, $\chi^2 = 1.97$, $p > .05$, or the vignette treatment seeking conditions, $\chi^2 = 0.23$, $p > .05$. There were no significant differences between whether they were currently taking medication for a psychological disorder between the vignette mental health status conditions, $\chi^2 = 0.21$, $p > .05$, or the vignette treatment seeking conditions, $\chi^2 = 0.21$, $p > .05$.

In summary, the participants assigned to the various conditions did not differ significantly in any of the demographic variables, service history, mental health history, attitudes toward seeking mental health help, self-stigma, or general perceived public stigma. Due to the lack of significant differences between the experimental conditions on these background variables, none of them were included as covariates in the subsequent analyses.

Linear relationship checks. We also examined the scatter plots of the PSOSH/IASMHS variables, the PSOSH/SSOSH variables, and the IASMHS/SSOSH variables for linear relationships. Linear relationships were evident for each, thus subsequent mediational analyses were deemed feasible.

Internal consistency. Internal consistency was checked for each of the DVs and for responses on the PSOSH-General, IASMHS, and SSOSH. For the PSOSH, the Cronbach's alpha for the general version was $\alpha = .94$, for the self version was $\alpha = .83$, and for the other veterans version it was $\alpha = .94$. For the QRMR, the Cronbach's alpha for the self version was $\alpha = .88$, and for the other veterans version it was $\alpha = .92$. For the QRSR, the Cronbach's alpha for the self version was $\alpha = .67$, and for the other veterans

version it was α = .69. For the IASMHS, the Cronbach's alpha was α = .90. For the SSOSH, the Cronbach's alpha was α = .92. In summary, all questionnaires showed adequate levels of internal consistency.

Participant Characteristics

The participating veterans were on average 36.06 (*SD* = 10.98) years old, ranging from 18 to 72 years old. They were primarily male (77.0%, 20.6% female, 0.6% transgender, and 1.8% declined to state), married (69.5%, 15.7% single, 9.1% divorced, and 0.5% separated), and Caucasian (87.9%). Participants also identified themselves as bi/multiracial (3.0%), Asian American (0.6%), and Hispanic (3.6%). The remaining 4.1% of the participants declined to identify a race/ethnicity. The majority of the participants had completed some college education (32.3%), followed by those who had a master's degree (24.4%), doctoral degree (18.3%), bachelor's degree (11.6%), had completed a trade school (6.1%), completed high school only (3.0%), completed grade school only (2.4%), and completed middle school only (1.8%). Participants were asked to report their current employment status and income; 43.9% reported that they were currently employed working for an hourly wage, followed by those who identified as a student (30.5%), those who were retired (9.1%), those who were out of work looking for work (4.9%), those who were employed by the military (3.7%), those who elected not to work to stay at home (3.0%), those who were unable to work due to disability (0.6%), and those who were out of work and not looking for work (0.6%). The average household income was $55,000 (*SD* = $39,642) annually.

Participants were also asked to provide information about their military service history. The majority of participants in the sample identified as serving in the Army (50.9%), followed by the Navy (18.2%), Air Force (15.2%), Marines (14.5%) and the

Coast Guard (1.2%). The majority of participants had separated from the service without retiring (64.8%), followed by participants who had retired (21.0%), while 14.2% of participants were still serving in the military. Of those who had separated or retired from military service, the average number of years since separation was 9.37 (*SD* = 9.06). The majority of participants had served in active duty (74.5%), followed by National Guard (17.6%) and the Reserves (7.9%). The participants reported having deployed to a combat zone an average of 1.2 (*SD* = 1.36) times for an average of 9.6 (*SD* = 10.79) months total. Most participants had served in support of Operation Iraqi Freedom (32.0%), Operation Enduring Freedom (27.2%), or Other Conflicts (28.6%); followed by the Gulf War (4.8%), Operation New Dawn (3.4%), the Vietnam War (2.7%), and Operation Desert Shield (1.4). Of the participants, 40% reported having seen/participated in combat and 43.8% reported that their service duty was primarily combat-oriented (e.g., they were a member of the infantry vs. being a mechanic). The highest pay grade earned by most participants was E5-E6 (43%), followed by E1-E4 (40%), O1-O4 (9.1%), E7-E9 (5.5%), and O5-O6 (2.4%). No participants reported having reached the pay grade of O7-O9.

Last, participants were asked to provide details about their previous experiences with psychotherapy and psychological difficulties. About one-sixth of the participants (16.8%) reported that they were currently seeing a therapist or counselor for a mental health issue, while 61.6% reported having sought professional mental health help in the past. Less than half of the participants (43.4%) reported having ever been diagnosed with a psychological disorder. In addition, 40.5% of the participants reported that they were currently taking medication for a psychological disorder and 23.4% reported having taken medication for a psychological disorder in the past.

Hypothesis 1: Differences between Conditions in Ratings of the Veteran in the Vignette

We were first interested in testing whether participants held differing views of the fictional veteran depicted in the vignette depending on if he was described as experiencing a mental health problem (yes vs. no) and if he was described as seeking psychotherapy (yes vs. no). We performed six 2 x 2 ANOVAs (one for each DV) in order to test this question. Post hoc simple contrasts were planned for any significant interaction effects.

First, we tested whether participants' personal experiences of stigma (PSOSH-Self) toward the veteran differed between the conditions. The average PSOSH-Self score for participants (n = 40) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was M = 5.53, SD = 1.24. The average score for the yes mental health problem, no psychotherapy condition participants (n = 40) was M = 6.30, SD = 1.86. The average score for the no mental health problem, yes psychotherapy condition participants (n = 42) was M = 5.91, SD = 1.75. Last, the average score for the yes mental health problem, yes psychotherapy condition participants (n = 43) was M = 6.30, SD = 1.85. The 2 x 2 ANOVA indicated a significant main effect for mental health problem, $F(1,161) = 4.88$, $p < .05$, $\eta^2 = .03$, with participants reporting more negative personal attitudes toward the veteran in the vignette when he was described as having mental health concerns. There was not a significant main effect based on treatment seeking status, $F(1,161) = 0.52$, $p = .47$, $\eta^2 = 0.00$. The interaction was also not significant, $F(1,161) = 0.51$, $p = .48$, $\eta^2 = 0.00$.

A 2 x 2 ANOVA was conducted in order to test whether participants' beliefs that others would experience stigma (PSOSH-Others) toward the veteran differed depending

on the vignette condition. The average PSOSH-Others score for participants (n = 39) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was M = 5.69, SD = 1.47. The average score for the yes mental health problem, no psychotherapy condition participants (n = 40) was M = 6.70, SD = 2.05. The average score for the no mental health problem, yes psychotherapy condition participants (n = 42) was M = 6.40, SD = 1.95. Last, the average score for the yes mental health problem, yes psychotherapy condition participants (n = 42) was M = 6.67, SD = 2.06. The 2 x 2 ANOVA indicated a significant main effect for mental health problem, $F(1,159) = 4.53$, $p < .05$, $\eta^2 = 0.03$, with participants reporting more negative perceived stigma by others when the veteran in the vignette when he was described as having mental health concerns. There was not a significant main effect based on treatment seeking status, $F(1,159) = 1.30$, $p = .26$, $\eta^2 = 0.01$. The interaction was also not significant, $F(1,159) = 1.56$, $p = .21$, $\eta^2 = 0.01$.

A 2 x 2 ANOVA was then conducted in order to test whether participants' willingness to engage in military specific activities with the veteran in the vignette (QRMR-Self) differed depending on the condition. The average QRMR-Self score for participants (n = 40) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was M = 19.83, SD = 3.66. The average score for the yes mental health problem, no psychotherapy condition participants (n = 40) was M = 19.15, SD = 4.18. The average score for the no mental health problem, yes psychotherapy condition participants (n = 42) was M = 18.71, SD = 3.88. Last, the average score for the yes mental health problem, yes psychotherapy condition participants (n = 43) was M = 20.12, SD = 3.55. The 2 x 2 ANOVA indicated that there was not a significant main effect for mental health problem, $F(1,161) = 0.04$, $p = .54$, $\eta^2 = .00$. There was also not a

significant main effect based on treatment seeking status, $F(1,161) = 0.02$, $p = 0.90$, $\eta^2 = .00$. The interaction was also not significant, $F(1,161) = 3.05$, $p = .08$, $\eta^2 = .02$.

A 2 x 2 ANOVA was then conducted in order to test whether participants' perception of other's willingness to engage in military specific activities (QRMR-Others) with the veteran in the vignette differed between conditions. The average QRMR-Others score for participants ($n = 39$) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was $M = 20.23$, $SD = 4.07$. The average score for the yes mental health problem, no psychotherapy condition participants ($n = 40$) was $M = 18.93$, $SD = 4.26$. The average score for the no mental health problem, yes psychotherapy condition participants ($n = 42$) was $M = 19.41$, $SD = 3.44$. Last, the average score for the yes mental health problem, yes psychotherapy condition participants ($n = 42$) was $M = 20.17$, $SD = 3.80$. The 2 x 2 ANOVA indicated no main effect for mental health problem, $F(1,159) = 0.08$, $p = .78$, $\eta^2 = 0.00$. There was also not a significant main effect based on treatment seeking status, $F(1,159) = 0.26$, $p = .61$, $\eta^2 = 0.00$. The interaction was also not significant, $F(1,159) = 2.32$, $p = .13$, $\eta^2 = 0.01$.

A 2 x 2 ANOVA was then conducted in order to test whether participants' personal willingness to engage in social relationships with the veteran in the vignette (QRSR-Self) differed between conditions. The average QRSR-Self score for participants ($n = 40$) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was $M = 22.95$, $SD = 2.88$. The average score for the yes mental health problem, no psychotherapy condition participants ($n = 40$) was $M = 22.13$, $SD = 3.49$. The average score for the no mental health problem, yes psychotherapy condition participants ($n = 42$) was $M = 22.40$, $SD = 2.86$. Last, the average score for the yes mental health problem, yes psychotherapy condition participants ($n = 43$) was $M =$

23.07, *SD* = 2.76. The 2 x 2 ANOVA indicated no significant main effect for mental health problem, $F(1,161) = 0.03$, $p = .87$, $\eta^2 = 0.00$. There also was not a significant main effect based on treatment seeking status, $F(1,161) = 0.18$, $p = .67$, $\eta^2 = 0.01$. The interaction was also not significant, $F(1,161) = 2.53$, $p = .11$, $\eta^2 = 0.02$.

A 2 x 2 ANOVA was then conducted in order to test whether participant's perception of other's willingness to engage in social relationships (QRSR-Others) with the veteran in the vignette differed between conditions. The average QRSR-Others score for participants ($n = 39$) who evaluated the veteran who did not have a mental health problem and who did not seek psychotherapy was $M = 21.33$, $SD = 3.50$. The average score for the yes mental health problem, no psychotherapy condition participants ($n = 40$) was $M = 20.65$, $SD = 3.71$. The average score for the no mental health problem, yes psychotherapy condition participants ($n = 42$) was $M = 21.05$, $SD = 3.12$. Last, the average score for the yes mental health problem, yes psychotherapy condition participants ($n = 42$) was $M = 21.52$, $SD = 2.64$. The 2 x 2 ANOVA indicated no main effect for mental health problem, $F(1,159) = 0.04$, $p = .84$, $\eta^2 = 0.00$. There also was not a significant main effect based on treatment seeking status, $F(1,159) = 0.33$, $p = .57$, $\eta^2 = 0.00$. The interaction was also not significant, $F(1,159) = 1.29$, $p = .26$, $\eta^2 = 0.01$.

Hypothesis 2: Mediational Model for Public Stigma, Self-stigma, and Attitudes

The relationship between attitudes toward psychotherapy (IASMHS), perceptions of public stigma (PSOSH-General), and self-stigma (SSOSH) was tested with a mediational analyses. Specifically, we tested whether the relationship between PSOSH-General scores and IASMHS scores was mediated by the relationships between PSOSH-General and SSOSH scores and SSOSH and IASMHS scores (a relationship that has been well-documented with other groups; Pederson & Vogel, 2007; Vogel et al., 2006, 2007).

Using the bootstrapping method outlined by Preacher and Hayes (2008), based on the data from 159 participants who completed all three measures, we tested the mediational model with 95% bias-corrected confidence intervals from 5,000 bootstrap samples. Means, correlations, and SDs for these three variables can be found in Table 1. Taken together, PSOSH-General and SSOSH scores explained 64.29% of the variance in IASMHS scores, $R = .80$, $F(2,156) = 152.92$, $p < .001$. A significant indirect effect (ab path) from PSOSH-General to SSOSH to IASMHS scores was found, *effect* = -1.08, 95% $CI_{\text{bias corrected}}$ [-1.52, -0.69]. However, even with the indirect path in the model, the direct effect (c' path) from PSOSH-General to IASMHS scores was still significant, *effect* = -0.89, 95% $CI_{\text{bias corrected}}$ [-1.29, -0.484]. Specifically, the indirect effect explained 33%, 95% CI [23%, 46%], of the variance in the model, A diagram of the mediation results is provided in Figure 5.

Hypothesis 3: Differences between Personal Attitudes and the Perceived Attitudes of Others toward Veterans with a Mental Health Problem and/or Psychotherapy Use

Last, three paired-samples *t*-tests were conducted to determine whether personal attitudes toward the veteran in the vignette differed significantly from perceptions of negative attitudes by others when the veteran was described as either having a mental health problem and/or seeking psychotherapy. Thus, only data from participants in three of the four conditions (n = 125) was used in these analyses. A paired-samples *t*-test indicated that scores were significantly higher (more stigma) for perceptions of stigmatization by other veterans (PSOSH-Others), $M = 6.62$, $SD = 2.02$, than for personal stigmatization (PSOSH-Self), $M = 6.16$, $SD = 1.82$, $t(124) = 2.44$, $p = .016$, $r = .41$, $d = 0.24$. A second paired-samples *t*-test indicated that scores were not significantly different for perceptions others' willingness to engage in military relationships with the veteran

(QRMR-Others), $M = 19.42$, $SD = 3.99$, compared to personal willingness to engage in military relationships (QRMR-Self), $M = 19.31$, SD = 3.89, $t(124) = 0.31$, $p = .77$, $r = .54$, $d = 0.03$. A third paired-samples t-test indicated that scores were significantly lower (more negative) for beliefs that others would be willing to engage in social relationships with veteran in the vignette (QRSR-Others), $M = 21.06$, $SD = 3.16$, compared to personal willingness to engage in social relationships with the same veteran (QRSR-Self), $M = 22.55$, $SD = 3.05$, $t(124) = 4.92$, $p < .001$, $r = .40$, $d = 0.48$.

Discussion

The purpose the current study was to empirically examine whether there is stigma for experiencing a mental health problem and/or for seeking psychotherapy in the veteran population. Although past studies have investigated this issue, they have primarily used self-report surveys asking about stigma as a barrier to treatment seeking (Blais, Tsai, Southwick, & Pietrzak; Boyd, Juanamarga, and Hashemi, 2015; Brown & Bruce, 2015; DeViva, 2015; Hoge et al., 2004) rather than an experimental method. By using an experimental design with differing vignettes depicting a veteran who varied on treatment-seeking status and mental health status, we were able to empirically test how each of these variables influenced attitudes toward the veteran depicted. In the current study we also examined whether the relationship between perceptions of public stigma and attitudes toward psychotherapy is mediated by the experience of self-stigma in a veteran sample. Last, we tested whether there were differences in actual stigma toward mental health concerns and psychotherapy treatment seeking and perceptions of negative attitudes in others.

The first hypothesis was that the veterans in the vignettes who were described as experiencing a mental health problem or as seeking mental health treatment would be rated more negatively on measures of willingness to engage in military and social relationships as well as a measure of stigma beliefs. Participant ratings of the veteran on the measures of stigma indicated that they held significantly more negative personal attitudes toward the veteran in the vignette when the veteran was depicted as having mental health issues. They also believed that others would hold more negative attitudes toward a veteran with a mental health problem. These findings indicate that there is stigma among the veteran population toward veterans experiencing mental health concerns. These results are similar to findings for research conducted in civilian populations (Kroska & Harkness, 2008; Link & Phelan, 2001; Link et al., 1999; Mak et al., 2015; Sadler, Kaye, & Vaughn, 2015) and confirm, using an experimental method, the results that have been already reported with survey and qualitative methods (Elbogen et al., 2015). These results indicate that the same stigma that is present in the general population is also found in the veteran population.

Interestingly, participant's ratings of stigma toward the veteran did not differ between treatment seeking conditions, indicating that the use of therapeutic services did not significantly impact participant ratings of the veteran depicted. This differs from previous research indicating that treatment seeking is associated with increased stigmatization (Ben-Porath, 2002; Ey, Henning, & Shaw 2000). This lack of stigma toward mental health service use may indicate that veterans recognize the prevalence of mental health issues and prefer that their comrades seek help for mental health concerns. This may also indicate that having, or being perceived as having, a mental health problem is more important than seeking treatment when considering stigmatization. Also, no

interaction effect was found between mental health status and treatment seeking status on ratings of stigma for seeking psychological help.

In contrast to the experience of negative attitudes toward the veteran described as experiencing a mental health problem, participants' willingness to engage in military specific activities with the veteran in the vignette were not influenced by mental health status or treatment seeking status. This finding is contrary to our initial hypothesis that a veteran depicted as having a mental health issue or seeking treatment would be rated more negatively across measures. We are not aware of any previous research investigating willingness to engage in military specific relationships due to mental health concerns or treatment seeking behavior. However, previous research has indicated that veterans do report a significant fear of being treated differently by others for experiencing a mental health problem (Hoge et al., 2014). Given that significant differences were found for the stigma measures that assessed negative attitudes (PSOSH-Self and PSOSH-Others), it may be that the negative attitudes do not always translate into differences in planned behaviors. The lack of difference in reported willingness to engage in military relationships may be the result of changes in the approach of the military toward mental health issues. In recent years military branches have taken several steps to normalize and portray that there is nothing wrong with the veterans who experience mental health problems (e.g., woundedwarriorproject.org, ptsd.va.gov). This change of approach might have resulted in changes in overt attitudes toward other veterans with mental health issues without having yet changed covert thoughts and opinions related to the mental health issues themselves. Although the veterans may still hold the same thoughts concerning mental health problems, changes in military policy might have made explicit expression of those thoughts less acceptable. It may also be due to a belief that mental

health concerns do not have an impact on one's ability to perform his or her military duties, either because veterans believe that individuals with mental health issues can effectively serve in their military roles, or because mental health issues are so prevalent in the military community.

Similarly, participants' personal willingness to engage in social relationships with the veteran depicted did not differ depending on the mental health status or treatment seeking status of the veteran. This finding is also contrary to previous research indicating that both experiencing mental health problems (Barry et al., 2013; Link et al., 1999; Pescosolido et al., 2010) and seeking treatment for mental health problems (Ben-Porath, 2002; Ey, Henning, & Shaw 2000) lead to stigmatization. Again, stigmatization was found on the measure of negative attitudes toward the veteran with a mental health concern, but not on willingness to engage in social relationships. It may be that the participants believed more negative things toward the veteran with mental health concerns, but consciously knew that that should not have an impact on their social relationships with the individual. This difference may result from implicit negative beliefs about individuals with mental health concerns being mitigated by purposeful control of overt behavior. In this way negative beliefs about an individual veteran with mental health concerns would not lead to the belief that the veteran would suffer negative social consequences. The lack of a difference in willingness to engage in social relationships for the veteran with mental health concerns may be the result of relationships already held by the participants with individuals who have mental health concerns. Although we did not collect data about mental health concerns in the participants' associates, the large number of veterans who experience mental health problems (Elliot et al., 2015; Hoge, et al., 2004; Tsai, et al., 2015), means that the

veterans in the sample likely already engage in social activities with other veterans who experience mental health problems.

It is worth noting that due to the number of analyses used to check this data there is the potential for type I error. Correction for this possibility could be accomplished by using a Bonferroni adjustment when interpreting the significance of the p-values found in this study. The Bonferroni-adjusted p-value for this set of ANOVAs would be .008 or .05/6. When interpreting the results of our analyses with this adjustment to p-value the findings concerning participant ratings of the veteran on the measures of stigma toward the veteran in the vignette when the veteran was depicted as having mental health issues become non-significant (p = .035). Additionally, participant ratings of their beliefs about others' attitudes toward the veteran with a mental health problem become non-significant (p = .029).

Our second hypothesis was that the relationship between perceptions of public stigma for seeking psychotherapy and attitudes toward psychotherapy would be mediated by the experience of self-stigma. This mediational relationship was supported in the participant data. Perceptions of public stigma and self-stigma were found to explain 64% of the variance in attitudes. The mediated indirect path explained 33% variance in the relationship between public stigma and attitudes; however, the direct path was still significant, indicating a partially mediated model. Support for the proposed model indicates that rather than the knowledge that stigma exists toward seeking psychotherapy alone, it is also the internalization of that stigma which influences attitudes toward treatment seeking. That is to say, the individual's negative beliefs about themselves plays a role in their decision whether or not to seek help in addition to how they believe they will be stigmatized by others if they seek out treatment. This result is in line with the

findings of previous researchers who have similarly found a mediational relationship between these three variables in other groups (Pederson & Vogel, 2007; Vogel et al., 2006, 2007). Identification of the presence or absence of this mediational effect of self-sigma in the veteran population may provide clues as to what intervention might be effective for increasing treatment seeking rates among veterans.

For our final hypothesis we compared the personal attitudes of the participants toward the veteran that was described as experience a mental health problem and/or seeking psychotherapy with the perceptions of others' attitudes concerning the veteran in the vignette. We found that perceptions of stigmatization by others of the veteran in the vignette were significantly higher (more negative) than the personal stigmatization by the participants. It may be that the individuals who participated in this study hold more favorable attitudes toward those with mental health problems than the veterans that they know and have experience with. However, it is more likely that these results indicate that there may be a greater perception of stigmatization than there is actual stigma for having a mental health problem. This discrepancy between actual and perceived stigma may be a relic of older views toward mental health problems, which have improved over the past decade (Quartana et al., 2014).

Perceptions of willingness to engage in military relationships did not show the same pattern of stigmatization. Participants rated their own willingness to engage in military relationships with the veteran depicted in the vignette as about the same as their perceptions of others' willingness to engage in such relationships. This similarity in personal willingness to engage in military relationships and expectation of others' willingness to engage in those relationships did not support our hypothesis that there would be a significant difference in these ratings of the veteran. This similarity in ratings

may have resulted from personal military relationship experiences of the participants with others who experience mental health problems – that is, they have seen that they can fulfill their military duties well. The discrepancy may also be the result of expectations that military roles should be respected regardless of personal thoughts or opinions about one's attributes and/or characteristics. Similarly, participants might realize that the rigid structure of the military does not permit changes in their behavior based on their knowledge of mental illness in others (e.g., in a combat situation an individual has to fight next to whoever their commanding officer places them by, no matter what they think of that individual).

Even though there was not a discrepancy in military relationships, we did find a discrepancy between willingness to engage in social relationships and perceived others' willingness to engage in social relationships with a veteran who had a mental health problem or who sought psychotherapy. This finding indicated that participants rated others' willingness to engage in such relationships as much lower than their own. This discrepancy in willingness and perceptions of willingness to engage in social relationships may result from differences in the nature of military relationships versus social relationships. Military relationships are rigidly defined, with each member assigned specific roles and responsibilities. These roles are often not negotiable, with each member expected to perform their duties without regard for personal feelings toward their co-workers. Social relationships on the other hand are not as clearly defined, nor are they compulsory. Thus, while participants might regard an individual's military relationships as likely to be protected from negative consequences associated with mental health issues, they might not expect that same protection to be extended to social roles.

Again, due to the number of analyses performed to test our hypotheses the possibility of incorrectly rejecting the null hypothesis becomes unacceptably large. Adjusting for the number of t-tests performed to check our hypotheses the p-value becomes .017, or .05/3. With this p-value our findings that participant attitudes toward the veteran in the vignette were still significantly more positive than their perceptions of other's attitudes toward the veteran ($p = .016$). Also, the finding that willingness to engage in social relationships with the veteran in the vignette was significantly different from perceptions of others' willingness to engage in social relationships ($p < .001$).

Limitations of the Current Study

The current study has limitations which should be considered when interpreting the results. The data collected showed significant skewness and kurtosis, violating the assumption of normality. This assumption of normality was still violated when data transformations were performed. Due to the violation of the assumption of normality our data may not reflect the population parameter, which means that our data may be biased. Particularly, it may be more difficult to find significant differences when the data is highly skewed and limited in range. Thus, the results obtained should be interpreted with caution. We also considered the use of nonparametric tests to analyze our data, which would have eschewed the need for a normal distribution. However, due to the Likert-type measures used in this study, we felt that transforming the data to a categorical scale would not match the nature of the responses that were provided by participants. Additionally, in order to compare our study with previous research on this topic we decided to keep the data in a format that was comparable to previous studies. This decision is also based on the fact that ANOVAs are relatively robust to violations to the assumption of normality.

A second limitation can be found in the sampling method that was used in this study. The sample used for this study consisted of veterans who were currently or previously affiliated with a single Northwestern university. These veterans may differ in their attitudes when compared with veterans from other geographic regions due to the rural nature of the area. Whereas urban veteran communities might have different preferences for self-reliance. The socioeconomic status of the veterans in this area may also differ from veterans in other regions of the country, limiting generalizability of the results.

The results of this study are also limited in generalizability due to the demographic characteristics of the sample. A large portion of this sample had achieved some form of higher education, including a significant portion which had obtained master's (24.4%) and doctoral (18.3%) degrees. This high educational level might have resulted in more positive attitudes toward the veteran with mental health problems or psychotherapy seeking than would be seen in other less educated veteran samples; as has been demonstrated in studies of the general population (Esen Danacı, Balıkçı, Aydın, Cengisiz, & Uykur, 2016). Similarly, different results may be seen in veteran groups who differ from the current sample in age, gender, race/ethnicity, and other demographic characteristics.

Importantly, a large portion of this sample had personally sought psychotherapy in the past (61.6%) or personally experienced a mental health problem (43.4%). The study was advertised as a study of attitudes toward veterans, without mentioning a mental health focus, so it is unclear why this high rate of mental health experience was found in the sample. This rate of treatment seeking is higher than what has been found in veterans in general (40% found by Quartana and colleagues, 2014). It is likely that the higher

percentage in our sample resulted in more favorable ratings of the veteran than what would be seen in other groups.

While differences were found between conditions based on mental health status on PSOSH scores, this was not the case for the QRMR and QRSR. This difference in scores may be the result of differences in the measures themselves rather than differences in participant attitudes. The QRMR and QRSR were measures which developed for this study based on other measures and modified specifically for this study and population. The QRMR self and other and the QRSR self and other showed the lowest internal reliability of all measures used in the present study. The QRSR in particular showed lower internal reliability (.67 for the Self version and .69 for the Other version). Because these measures were created specifically for this study, their psychometric properties are unknown; thus, they may be unreliable or invalid measures of social and military relationships. Although we chose to include questions which were face valid, the questions which were asked may not have measured the participants' willingness to engage in social and military relationships with the veteran in the vignette. Conversely, the PSOSH is a measure of stigma which has been well-validated in previous research.

Veterans may also have felt reticent to display views of the veteran in the vignette which were negative. This might be true because of feelings of loyalty to other service members, or due to a desire to show opinions which they believe to be socially acceptable. We did include a sentence at the beginning of the study asking participants to report their actual attitudes rather than what they believed others would like them to report. However, the desire to display socially acceptable behavior may have resulted in distortion of participant's reported attitudes when compared to their actual attitudes. Inclusion of a measure of socially desirable responding would have helped us better

assess this potential confounding variable. We do not know how many participants decided not to respond to the email asking for participation due to not reading the recruitment email and how many chose not to participate after reading the recruitment email. Additionally, we do not know how many participants clicked on the link to the recruitment email, read the informed consent page, and decided not to participate in the study. Although the recruitment email and informed consent pages did not include any mention of mental health treatment or mental health problems in their description, participants who read the email or informed consent and chose not to participate in the study may have shared some characteristic which caused them to vary from the sample we collected. Additionally, several participants chose to stop participating after being exposed to the vignette, indicating that some portion of the vignette may have led to those particular participants to discontinue the study.

Future Research Directions

In addition to addressing this study's limitations, a number of future research directions exist. The most important finding of this study is the mediational model showing that the internalization of stigma is related to attitudes toward treatment seeking. This finding had the greatest magnitude of effect and appears to be an important factor associated with the effects of stigma on treatment seeking. However, these mediational analyses are based on cross-sectional data, which limits our ability to infer causality or directionality of influence. Future researchers could employ a longitudinal study design which would allow for a more clear test of directionality. Future research could seek to identify determining factors associated with the internalization of stigma, variables which are the most detrimental to attitudes toward psychotherapy. One of the factors which

might lead to the internalization of stigma include personal experience of mental health problems. Related, another might be previous personal experience of discriminatory behaviors for having a mental health problem. Future studies could also test variables such as empathy, compassion, self-esteem, and openness as predictors of an individual's internalization of perceived public stigma.

Additional research on the differences in acceptability of specific psychological disorders among veterans might shed light on which disorders are more or less stigmatized (e.g. substance use disorder vs. PTSD). In the current study we attempted to describe general mental health concerns. However, different disorders may be more stigmatizing. In fact, one veteran participant emailed the study investigators complaining that PTSD was labeled as a mental disorder in our study. Apparently, he saw it as something different and less stigmatizing. Future studies could investigate which disorders are more stigmatizing than others within the veteran population.

Future research should also focus on the development and testing of interventions designed to reduce aspects of public and self-stigma within the veteran population. Given that public stigma was found to have both an indirect and direct path to attitudes, interventions may want to start by addressing perceptions of the population's view of mental illness. Interventions focused on encouraging individuals experiencing mental illness to "come out of the closet" regarding their mental health condition have been shown to decrease stigmatization in past studies (Corrigan & Rao, 2012). It may be helpful to have presentations of strong and capable veterans who also experience mental health problems. Also, by empowering individuals to reveal their psychiatric history rather than concealing it they can lose the fear of being found out while also gaining access to social support. Alternatively, targeting negative thoughts themselves might be

helpful in reducing the negative effects of self-stigma associated with negative self-attributions associated with being diagnosed with a mental health issue. This might be achieved through normalization of the occurrence of mental health issues. Such normalization of mental health issues can be implemented before an individual experiences mental health concerns by educating the veteran population about the prevalence of mental health issues in the veteran population. Specifically, mental health issues identified as more stigmatized than others could be portrayed as naturally-occurring, treatable conditions. Implementation of this intervention could also include information regarding differences found between what veterans fear others will think about them, and what the research actually says others will think about them if they experience a mental health problem. This educational intervention could include encouragement to seek treatment as well as access to mental health resources.

Conclusions

In spite of a significant need for treatment (Elliot et al., 2015; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Tsai, Harpaz-Rotem, Armour, Southwick, Krystal, & Pietrzak, 2015), many veterans choose not to seek psychotherapy for mental health issues (Elbogen et al., 2013; Hoge et al., 2004; Tsai et al., 2015; Quartana et al., 2014). Stigma toward those with mental health problems and those who utilize psychotherapy has been shown to be related to treatment seeking attitudes in several other studies. In turn, treatment seeking attitudes have been shown to be related to actual rates of treatment seeking. However, studies focusing on the stigma and treatment seeking in the veteran population have been lacking; therefore, we focused this study on the veteran population. We found that among our participants a fictional veteran

portrayed as having mental health problems was rated significantly more negatively than a veteran portrayed without mental health issues. Additionally, contrary to past research, we found that a veteran portrayed as seeking psychotherapy was not rated more negatively than a veteran portrayed without such issues. We also found that attitudes toward seeking treatment were related to perceptions of public stigma such that the relationship between perceived public stigma and attitudes toward seeking treatment was mediated by ratings of self-stigma. Finally, we found that perceptions of stigma toward individuals with mental health issues, or those who are seeking psychotherapy are significantly more negative than actual stigma in the sample studied. The most significant finding from this study is the relationship between perceived public stigma, self-stigma, and attitudes toward treatment seeking. Although several of our other analyses were "significant" ($p < .05$) their effect sizes were relatively small indicating that although they exerted an effect, that effect accounted for only a small part of the observed variance.

The results from this study have the potential to inform methods to improve treatment seeking for the thousands of veterans nation-wide who experience a mental health need. We found that veteran participants held more negative attitudes, and perceived others as holding more negative attitudes, toward the veteran described as experiencing a mental health issue, but not toward the veteran depicted as seeking psychotherapy. Based on this, implementing policies which are focused on addressing concerns about mental health problems may be more important than interventions focused on treatment seeking. We also found that the relationship between veteran perceptions of public stigma and attitudes toward treatment seeking was mediated by internalization of public stigma (self-stigma), but the relationship was only partially mediated. Based on this, it may be most beneficial to seek to first address perceptions of

public stigma in the veteran population. These efforts may have a positive impact on self-stigma, but also a direct impact on the attitudes that are held toward psychotherapy. Improving veteran clients' beliefs about themselves when they are diagnosed with a mental health disorder could also help to mitigate the effects of self-stigma on treatment-seeking attitudes. Our final finding was that participants held more favorable attitudes toward the veteran in the vignette than they perceived others to have. Based on this, education about actual vs. perceived stigmatization may reduce veteran's fears of being viewed negatively. By informing veterans about false beliefs regarding others' attitudes toward those with mental health issues, they can develop more accurate beliefs about how they will be viewed for admitting they have a mental health issue or for seeking psychotherapy. This new awareness may lead to increased treatment seeking in the veteran population.

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Appendices

Appendix A

Recruitment Email

Dear Veteran,

I hope this email finds you well. My name is Jonathan Goode and I'm a graduate student at Idaho State University as well as a veteran of the United States Air Force. I am emailing you as a graduate student to ask you to participate in my thesis study looking at values and beliefs that we veterans hold toward other veterans.

If you are a veteran of the United States military I am asking for your participation in a short survey. Participation in the study is limited to the first 300 eligible people who sign up.

Participants will complete an online survey that lasts between 20 and 30 minutes. **Participants who complete the survey will be entered into a raffle to receive one of forty $50 Amazon gift cards**. This means that if you complete the survey you have approximately a 1 in 8 chance of winning a gift card.

Please click the link below and see the attached recruitment flyer if you are interested in learning more about the study and beginning your participation. Alternatively, you can contact Jonathan Goode (goodjona@isu.edu) or his faculty advisor Dr. Joshua Swift (swifjosh@isu.edu) if you have any questions.

(Link)

Thank you very much!

Sincerely,

Jonathan Goode

Appendix B

Informed Consent Page

You are invited to join a research study examining veterans' values and beliefs toward other veterans.

WHAT IS INVOLVED IN THE STUDY?

If you decide to participate you will be asked to first answer some basic demographic questions and questions about your military service. You will then be shown a picture and description of another veteran and asked to rate your opinions toward that veteran. Last, you will be asked to complete a few short measures assessing some of your values and beliefs. In total, this study should take around 20 to 30 minutes to complete. If you start the survey, you can skip any question you would like or stop participating at any time. Although there will be no penalty if you discontinue your participation, you will not be eligible for the gift card raffle unless you complete the entire survey.

RISKS:

This study involves minimal risk. You will only be asked questions about your values and beliefs. If, at any time, you find the questions distressing, you can discontinue the survey. Additionally, at the end of the survey you will be given contact information if you find that you are experiencing significant amounts of distress.

BENEFITS TO TAKING PART IN THE STUDY:

If you complete the study you can choose to enter into a raffle to win one of thirty-eight $50 Amazon gift cards. Your odds of winning one of the gift cards is approximately ONE in EIGHT. In order to be entered the raffle you must complete the survey. In addition, several question are included throughout the survey to make sure that you are responding to the questions in a thoughtful way. If your responses show that you are not thoughtfully completing the survey, you will not be allowed to enter the raffle.

More broadly, the results of this study may also assist in improving the experiences of veterans when they are discharged from active duty.

CONFIDENTIALITY:

You will not be asked to provide any identifying information (e.g., name, birthdate) for this study. Thus, your responses will in no way be linked to your identity. If you choose to enter the raffle, you will be asked to provide an email address. However, this will be kept separate from your survey responses. Only myself (Jonathan Goode) and my advisor (Dr. Joshua Swift) will have access to your responses and your email addresses. Email addresses will be deleted after the raffle has been completed.

YOUR RIGHTS AS A RESEARCH PARTICIPANT?

Participation in this study is entirely voluntary. You have the right not to participate at all or to discontinue the study at any time. Deciding not to participate or choosing to discontinue the study will not result in any penalty or loss of benefits to which you are entitled.

CONTACTS FOR QUESTIONS OR PROBLEMS?

You may contact Jonathan Goode at goodjona@isu.edu if you have questions, comments, or concerns about the study. You may also contact Dr. Joshua Swift at swifjosh@isu.edu.

Contact Tom Bailey, Committee Manager of the HSRO at (208) 282-2179 or humsubj@isu.edu if you have any questions or concerns about your rights as a research participant.

Appendix C

Questions regarding social relationships: Self (QRSR-Self)

INSTRUCTIONS: Please read each of the following statements and respond with how you feel about Billy. Please be truthful and respond based on how you really feel, not based on how you think others would want you to respond.

1. Would you discourage your children from marrying someone like this? (R)

2. If you had a room to rent in your home, would you be willing to rent it to someone like this?

3. Would you be willing to work on a job with someone like this?

4. Would you be willing to have someone like this join a favorite club or organization of yours?

5. Would you object to having a person like this as a neighbor? (R)

Appendix D

Questions regarding social relationships: Others (QRSR-Others)

INSTRUCTIONS: Please read each of the following statements and respond with **HOW YOU THINK OTHER VETERANS** would feel about Billy. These are the same questions that you just completed, but remember, this time respond with how you think other veterans would react toward Billy.

1. Would most veterans discourage their children from marrying someone like this? (R)

2. If they had a room to rent in their home, would most veterans be willing to rent it to someone like this?

3. Would most veterans be willing to work on a job with someone like this?

4. Would most veterans be willing to have someone like this join a favorite club or organization of theirs?

5. Would most veterans object to having a person like this as a neighbor? (R)

Appendix E

Questions regarding military relationships (QRMR-Self)

INSTRUCTIONS: Please read each of the following statements and respond with how you feel about Billy. Please be truthful and respond based on how you really feel, not based on how you think others would want you to respond.

1. Would you be willing to be positioned next to this person in a combat situation?

2. Would you trust this person to watch your back under life-threatening conditions?

3. Would you be willing to be under this person's command?

4. Would you be willing to be in the same unit as this person?

5. Would you be willing to promote this person into a command role?

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix F

Questions Regarding Military Relationships: Others (QRMR-Others)

INSTRUCTIONS: Please read each of the following statements and respond with **HOW YOU THINK OTHER VETERANS** would feel about Billy. These are the same questions that you just completed, but remember, this time respond with how you think other veterans would react toward Billy.

1. Would most veterans be willing to be positioned next to this person in a combat situation?

2. Would most veterans trust this person to watch their back under life-threatening conditions?

3. Would most veterans be willing to be under this person's command?

4. Would most veterans be willing to be in the same unit as this person?

5. Would most veterans be willing to promote this person into a command role?

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix G

Perceptions of Stigmatization by Others for Seeking Psychological Help (PSOSH) scale (original)

INSTRUCTIONS: Imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would _____.

1. React negatively to you
2. Think bad things of you
3. See you as seriously disturbed
4. Think of you in a less favorable way
5. Think you posed a risk to others

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix H

Perceptions of Stigmatization by Others for Seeking Psychological Help (PSOSH-Self) scale (Post-vignette, modified version [modifications bolded] to reflect the participant's personal attitudes)

INSTRUCTIONS: **Based on what you read about Billy,** to what degree **do you _____**.

1. React negatively to **him**
2. Think bad things of **him**
3. See **him** as seriously disturbed
4. Think of **him** in a less favorable way
5. Think **he** posed a risk to others

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix I

Perceptions of Stigmatization by Others for Seeking Psychological Help (PSOSH-Others) scale (Post-vignette, modified version [modifications bolded] to reflect the participant's personal attitudes)

INSTRUCTIONS: **Based on what you read about Billy,** to what degree do you believe **most veterans** would _____.

1. React negatively to **him**
2. Think bad things of **him**
3. See **him** as seriously disturbed
4. Think of **him** in a less favorable way
5. Think **he** posed a risk to others

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix J

Inventory of Attitudes toward Seeking Mental Health Services (IASMHS)

1. There are certain problems which should not be discussed outside of one's immediate family (R)
2. I would have a very good idea of what to do and who to talk to if I decided to seek professional help for psychological problems
3. I would not want my best friend to know if I were suffering from psychological problems (R)
4. Keeping one's mind on a job is a good solution for avoiding personal worries and concerns (R)
5. If good friends asked my advice about a psychological problem, I might recommend that they see a professional
6. Having been mentally ill carries with it a burden of shame (R)
7. It is probably best not to know everything about oneself (R)
8. If I were experiencing a serious psychological problem at this point in my life, I would be confident that I could find relief in psychotherapy
9. People should work out their own problems; getting professional help should be a last resort (R)
10. If I were to experience psychological problems, I could get professional help if I wanted to
11. Important people in my life would think less of me if they were to find out that I was experiencing psychological problems (R)
12. Psychological problems, like many things, tend to work out by themselves (R)
13. It would be relatively easy for me to find the time to see a professional for psychological problems
14. There are experiences in my life I would not discuss with anyone (R)
15. I would want to get professional help if I were worried or upset for a long period of time
16. I would be uncomfortable seeking professional help for psychological problems because people in my social circles might find out about it (R)
17. Having been diagnosed with a mental disorders is a blot on a person's life (R)
18. There is something admirable in the attitude of people who are willing to cope with their conflicts and fears without resorting to professional help (R)
19. If I believed I were having a mental breakdown, my first inclination would be to get professional attention
20. I would feel uneasy going to a professional because of what some people would think (R)
21. People with strong characters can get over psychological problems by themselves and would have little need for professional help (R)
22. I would willingly confide intimate matters to an appropriate person if I thought it might help me or a member of my family
23. Had I received treatment for psychological problems, I would not feel that it ought to be “covered up”
24. I would be embarrassed if my neighbor saw me going into the office of a professional who deals with psychological problems (R)

Note. All items are scored using a 5-point strongly disagree (0) to strongly agree (4) format.

Appendix K

Items in Self-stigma of Seeking Psychological Help (SSOSH)

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

Note. All items are scored using a 5-point strongly disagree (1) to strongly agree (5) format.

Appendix L

Vignettes

No mental health problem, no psychotherapy use (control vignette): Billy is a 27-year-old veteran who served in the Army for seven years. He has been married to his wife since he was 18 years old and he has two daughters. Billy often spends time with his friends on the weekends, watching football or hunting. Billy also enjoys spending time with his wife and daughters, going camping and attending social events/activities. When Billy was in the Army, he was pretty close with the other members of his unit and they described him as a generally happy guy. He recently returned from a 12 month deployment to Afghanistan and received an honorable discharge. During his time in Afghanistan, Billy saw combat action as a member of the Infantry.

No mental health problem, yes psychotherapy use (differences from control vignette bolded and italicized): Billy is a 27-year-old veteran who served in the Army for seven years. He has been married to his wife since he was 18 years old and he has two daughters. Billy often spends time with his friends on the weekends, watching football or hunting. Billy also enjoys spending time with his wife and daughters, going camping and attending social events/activities. When Billy was in the Army, he was pretty close with the other members of his unit and they described him as a generally happy guy. He recently returned from a 12 month deployment to Afghanistan and received an honorable discharge. During his time in Afghanistan, Billy saw combat action as a member of the Infantry. ***Although he is not experiencing any signs of depression, PTSD, or other mental health distress, Billy recently decided to begin working with a psychologist for personal exploration and growth reasons.***

Yes mental health problem, no psychotherapy use (differences from control vignette bolded and italicized): Billy is a 27-year-old veteran who served in the Army for seven years. He has been married to his wife since he was 18 years old and he has two daughters. Billy often spends time with his friends on the weekends, watching football or hunting. Billy also enjoys spending time with his wife and daughters, going camping and attending social events/activities. When Billy was in the Army, he was pretty close with the other members of his unit and they described him as a generally happy guy. He recently returned from a 12 month deployment to Afghanistan and received an honorable discharge. During his time in Afghanistan, Billy saw combat action as a member of the Infantry. ***Since returning from Afghanistan, Billy has been experiencing some difficulties in his life. He thinks he may have depression and PTSD. Although Billy knows that he could work with a psychologist on these problems, he has decided not to seek any type of professional help.***

Yes mental health problem, yes psychotherapy use (differences from control vignette bolded and italicized): Billy is a 27-year-old veteran who served in the Army for seven years. He has been married to his wife since he was 18 years old and he has two daughters. Billy often spends time with his friends on the weekends, watching football or hunting. Billy also enjoys spending time with his wife and daughters, going camping and attending social events/activities. When Billy was in the Army, he was pretty close with the other members of his unit and they described him as a generally happy guy. He recently returned from a 12 month deployment to Afghanistan and received an honorable discharge. During his time in Afghanistan, Billy saw combat action as a member of the

Infantry. ***Since returning from Afghanistan, Billy has been experiencing some difficulties in his life. He thinks he may have depression and PTSD. He recently decided to begin working with a psychologist for help with these problems.***

Appendix M

Demographic questions

What is your age?:

What is your gender?:

What was/is your branch of service?

- Coast Guard
- Air Force
- Army
- Marines
- Navy

How Many years did you serve in the military?:

- (Number of years served)

If you are separated or retired from service, how many years has it been since your separation?:

- (Number of years since separating from service)

Are you Active Duty, Retired, or Separated?

- Active Duty
- Retired
- Separated

Did you primarily serve in the Active Duty, Reserve, or National Guard

- Active Duty
- Reserves
- National Guard

How many times did you deploy to a combat zone while in service?:

How much time (in months) have you spent deployed to a combat zone?:

What Operation(s) have you served in?

- Operation Iraqi Freedom (OIF)
- Operation Enduring Freedom (OEF)
- Operation Desert Shield (ODS)
- Operation New Dawn (OND)
- Gulf War
- Vietnam War
- Korean War
- World War II

What was your primary duty while deployed?

- Combat-related duties
- Noncombat-related duties

Were you ever engaged in a combat situation?

- Yes
- No

Ethnicity/race:

Education: What is the highest degree or level of school you have completed? *If currently enrolled, highest degree received.*

- No schooling completed
- Nursery school to 8th grade
- Some high school, no diploma
- High school graduate, diploma or the equivalent (for example: GED)
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Marital Status: What is your marital status?

- Single, never married
- Married or domestic partnership
- Widowed

- Divorced
- Separated

Employment Status: Are you currently…?

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Military
- Retired
- Unable to work

What is your household annual income?:

What is the highest rank you achieved in the military?

- E-1 – E-4
- E-5 - E-6
- E-7 – E-9
- O-1 – O-4
- O-5 – O-6
- O-7 – O-9
- W-1 – W-4

Are you currently seeing a therapist, counselor, or other mental health provider for counseling or psychotherapy?

- Yes
- No

Have you previously seen a therapist, counselor, or other mental health provider for counseling or psychotherapy?

- Yes
- No

Do you have any family members who current are or have previously seen a therapist, counselor, or other mental health provider?

- Yes
- No

Have you ever been diagnosed with a psychological disorder by a mental health professional such as a therapist, counselor, or psychiatrist?

- Yes
- No

If you have ever been diagnosed with a psychological problem what were you diagnosed with?:

- (Diagnosis)

Are you currently taking any medication (prescribed by a doctor) for a psychological problem?

- Yes
- No

Have you ever taken medicine (prescribed by a doctor) for a psychological problem?

- Yes
- No

Appendix N

Tables and Figures

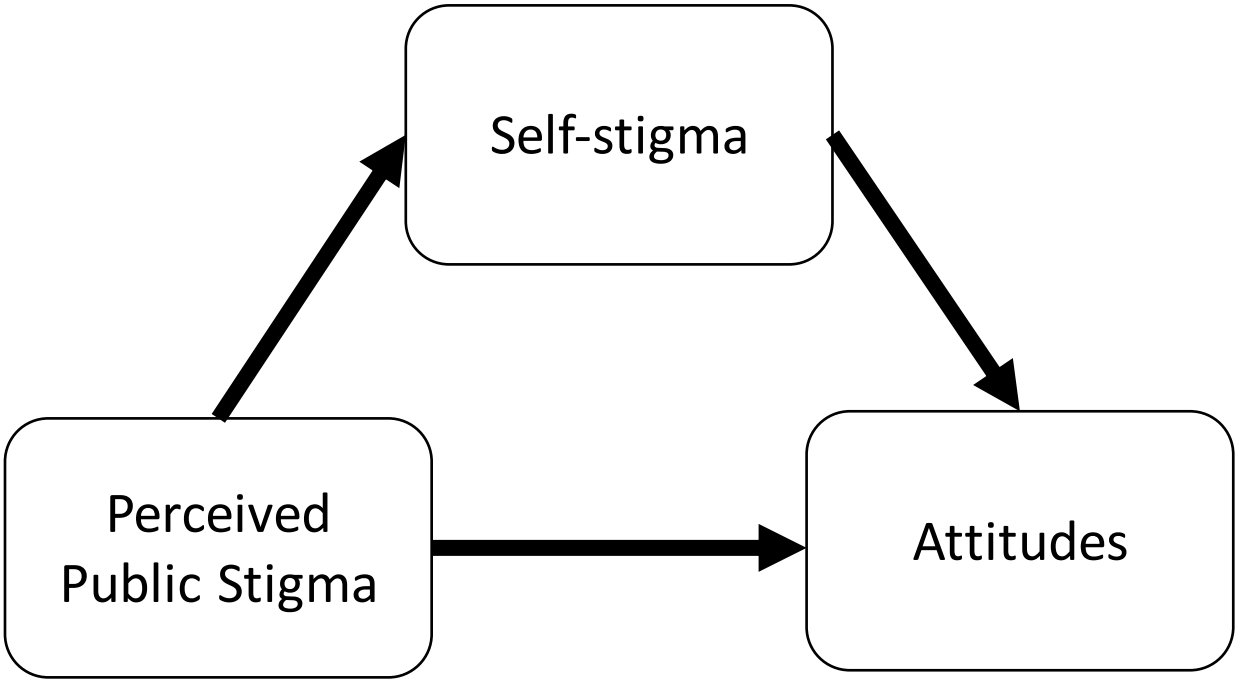

Figure 1. Illustration of the Relationship between Perceived Public Stigma, Self-Stigma, and Attitudes. Perceived public stigma with seeking professional psychological help has been found to be linked to help-seeking attitudes, but the relationship is at least partially explained by the experience of self-stigma.

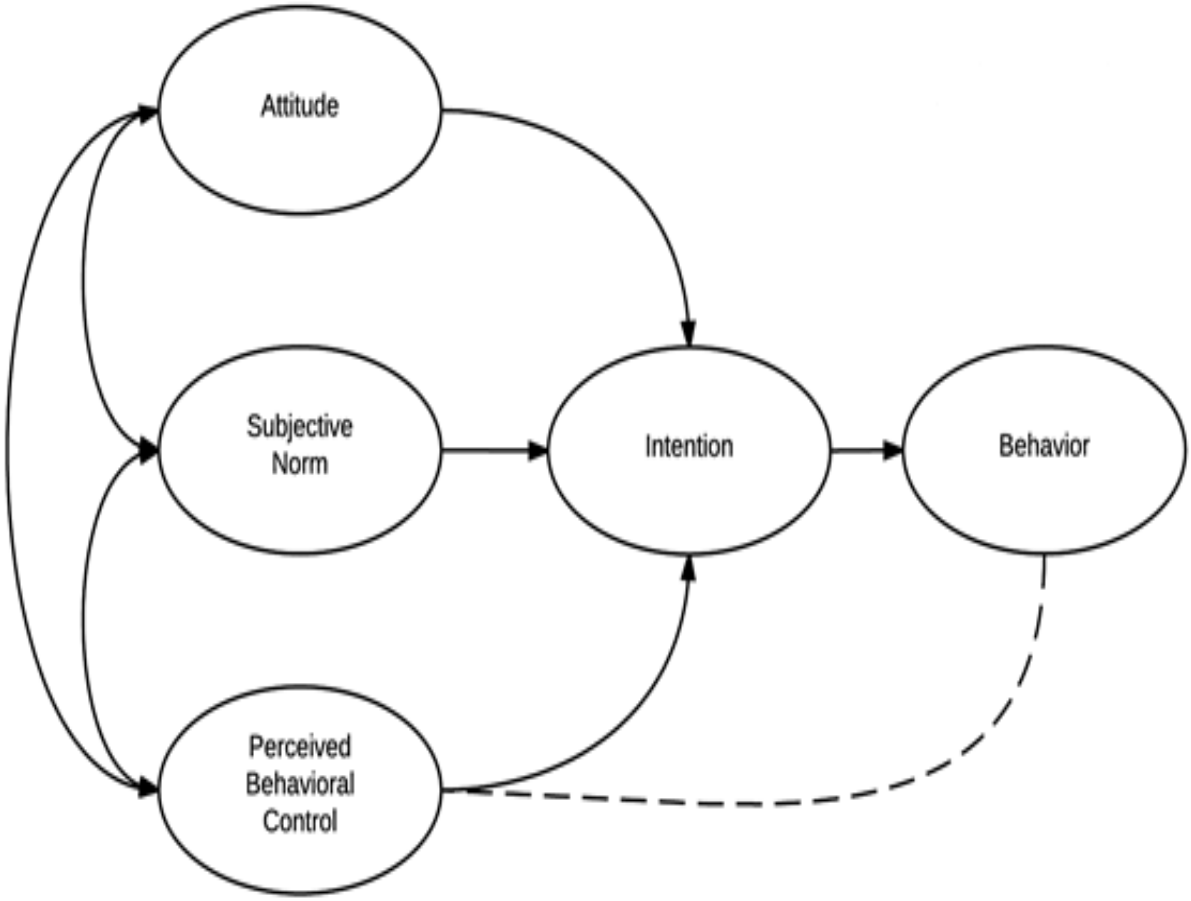

Figure 2. Illustration of the Theory of Planned Behavior. Stigma (perceived public and self) is thought to impact attitudes toward seeking professional psychological help, which in turn has an impact on intentions to seek help in the context of subjective norms and perceived behavioral control, which is thought to lead to actual help-seeking behaviors.

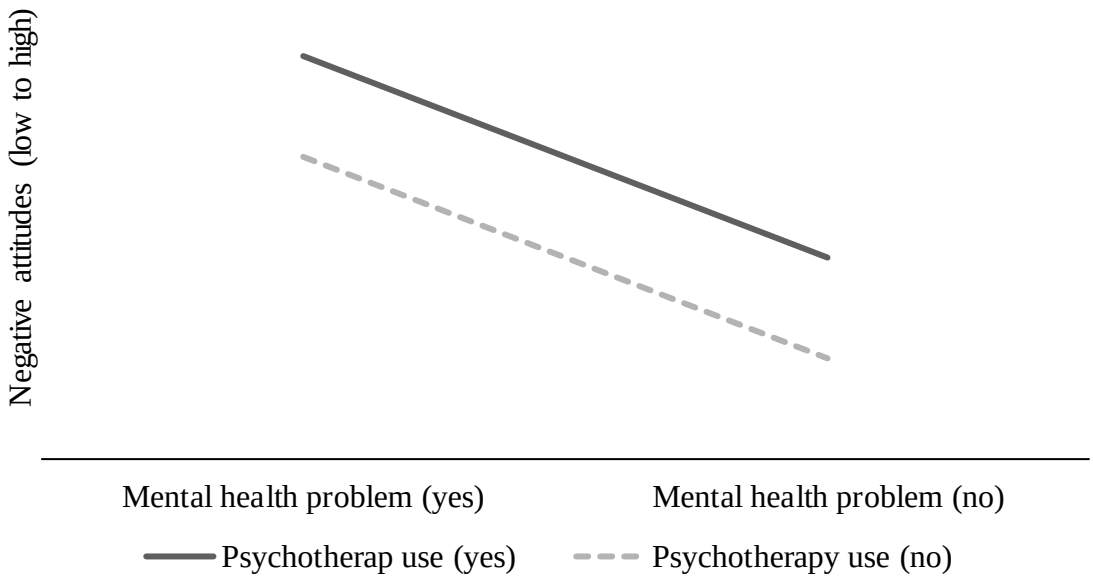

Figure 3. Hypothesized findings regarding attitudes toward the veterans described in the vignettes depending on mental health status and treatment seeking status.

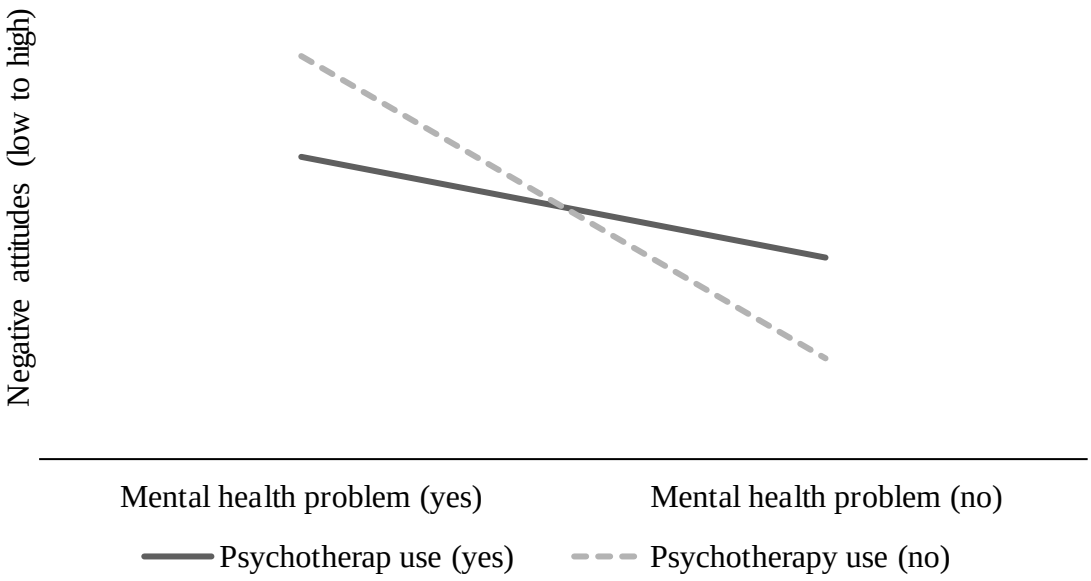

Figure 4. Alternative hypothesized findings regarding attitudes toward the veterans described in the vignettes depending on mental health status and treatment seeking status depicting an interaction.

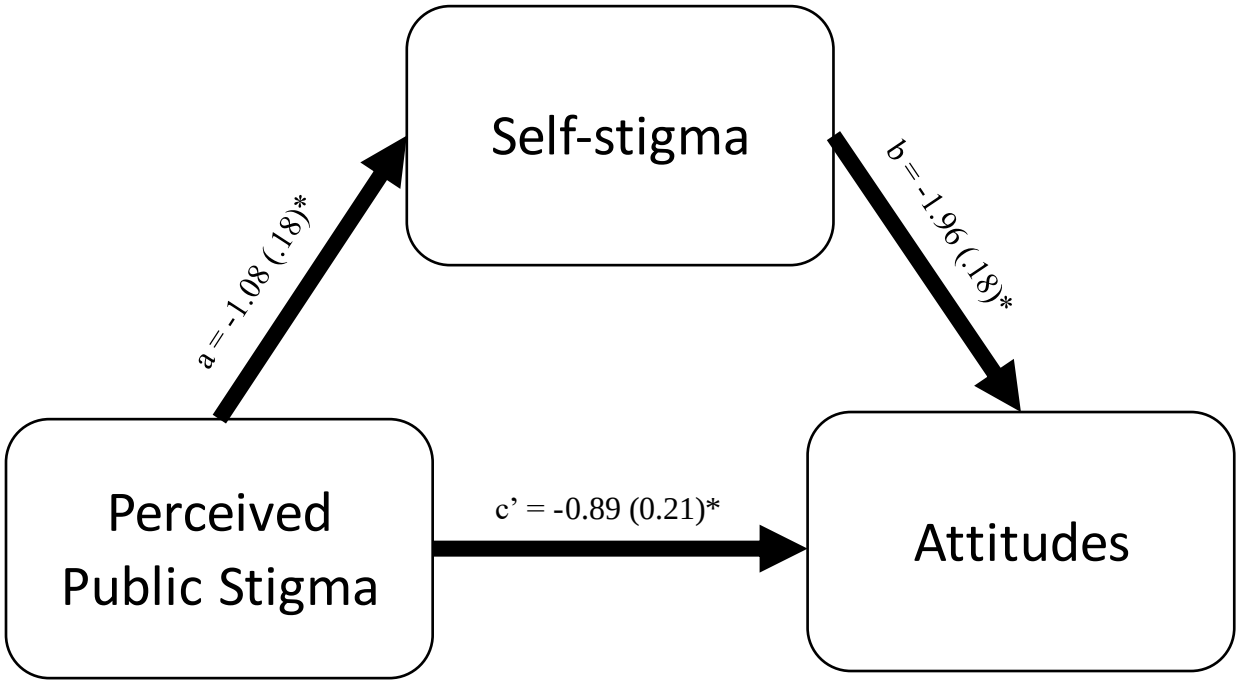

Figure 5. Illustration of the Relationship between Perceived Public Stigma, Self-Stigma, and Attitudes.

* = $p < 0.01$

Table 1. Means, Standard Deviations, and Correlations for Scores on the IASMHS, PSOSH, and SSOSH.

			Pearson's correlation (*r*) with		
Variable	*Mean*	*SD*	IASMHS	PSOSH	SSOSH
IASMHS	62.28	15.07	--	--	--
PSOSH	9.62	4.81	0.39	--	--
SSOSH	23.53	8.64	0.59	0.32	--