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The Effects of Mental Illness on Trust Between Military Veterans

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THE EFFECTS OF MENTAL ILLNESS ON TRUST BETWEEN MILITARY VETERANS

by

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A Dissertation Presented to the School of Psychology
of Nova Southeastern University
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This dissertation was submitted by Kristina M. Reihl, under the direction of the chairperson of the dissertation committee listed below. It was submitted to the School of Psychology and approved in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Clinical Psychology at Nova Southeastern University.

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ABSTRACT

Service members have reported the perception that seeking treatment for, and/or having a mental illness will cause a loss of trust between a service member and his/her leaders and peers (Nash, Silva, and Litz, 2009; Hoge et al, 2004). This study aimed to determine if the presence of a mental illness affects the trust between service members and determine whether other variables moderated this relationship. Using social media and Mechanical Turk an internet participant-recruiting site operated by Amazon, data were collected from 220 military Veterans. Participants were assessed using a research developed Demographics Questionnaire, the Combat Exposure Scale, The Unit Cohesion Scale, and the Trust in Teams Scale. Participants were randomized into three groups. Each of the three groups read a different scenario depicting a service member. Results of this study do not support the existence of a measureable loss in trust with disclosure of a mental illness. A significant increase in predictability and global trust scores was observed when participants read the scenario different scenarios. The results, specifically that trust did not change as a function of a unit member displaying symptoms of mental illness and that treatment for a mental illness, improved trust scores on the facets of global trust and predictability, provide the basis for future research into this area

CHAPTER I: STATEMENT OF THE PROBLEM

Previous research reports that military service members experience posttraumatic stress disorder (PTSD), alcohol use disorders, and suicide at higher rates when compared to the general population (Wagner, Harris, Federman, Dai, Luna, & Humphreys, 2007; Army HP/RR/SP Report, 2010). Studies also demonstrate that the stigma (negative attitudes) associated with a military service member suffering from a mental illness leads to a decrease in utilization of mental health treatment (Wright, Cabrera, Bliese, Adler, Hoge, & Castro, 2009; Hoge et al., 2004; Britt et al., 2008). Veterans think that they would lose trust from leaders and peers if they displayed symptoms of a mental illness or sought treatment for their symptoms (Nash, Silva, and Litz 2009; Hoge et al. 2004; & Burns & Mahalik 2011,). Research into the stigma of mental illness in the military population has failed to address how the stigma of mental illness affects trust between unit members. To date, the literature has not addressed the actual, measureable, loss of trust when a service member discloses symptoms of a mental illness. This study explores the ways in which the concept of trust between service members changes when a service member reports or displays symptoms of mental illness. This study also examines moderators associated with this relationship.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

In 2008, the Department of Defense (DoD) estimated that the military deploys 150,000 to 200,000 military service members overseas at any one time, and that the DoD deployed approximately 1.6 million troops since 2001 in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) (Defense Manpower Data Center [Department of Defense], 2008). Deployments today are characterized by an increase in frequency and duration, which can cause multifocal challenges for service members, including mental illnesses (Hosek, Kavanagh, & Miller, 2006). The most prevalent psychological disorders among military service members are depression, post-traumatic stress disorder (PTSD), anxiety disorders other than PTSD, and alcohol use disorders (Greene-Shortridge, Britt, & Andrew, 2007; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; & Owens, Herrera, & Whitesell, 2009).

The literature establishes that military service members suffering from mental illnesses do not receive the treatment they need (Kessler, Frank, Edlund, Katz, Lin, & Leaf, 1997; Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996, & Kim, Britt, Klocko, Riviere, & Adler, 2011). Barriers preventing military service members from seeking treatment include the stigma associated with mental healthcare (Nash, Silva, and Litz 2009, Britt et al. 2008; Wright, Cabrera, Bliese, Adler, Hoge, & Castro 2009; Hoge et al., 2004; Britt, 2000; & Greene-Shortridge, Britt, & Andrew, 2007; Kim, Britt, Klocko, Riviere, & Adler, 2011; & Corrigan, 2004). The stigma of mental illness in the military is hypothesized to cause service members to avoid seeking treatment due to the fear of being branded as weak, and losing the respect and trust of their peers and leaders

(Nash, Silva, & Litz 2009; Hoge et al. 2004 & As cited in Burns & Mahalik 2011, Brooks, 2001).

Prevalence Rates

In 2009, hospitals admitted more veterans for mental health diagnoses than any other diagnostic category (Ramchand, Schell, Jaycox, & Tanielian, 2011). Posttraumatic stress disorder ranks as one of the most common mental illnesses amongst military service members (Greene-Shortridge, Britt, & Andrew, 2007; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; & Owens, Herrera, & Whitesell, 2009). Prevalence rates for PTSD in a military sample vary between studies with the majority predicting rates between 11 and 20 percent (Milliken, Auchterlonie, & Hoge, 2007; Seal, Bertenthal, Miner, Sen, & Marmar, 2007; Seal, Metzler, Gima, Bertenthal, Maguen, & Marmar, 2009; Tanielian, & Jaycox, 2008). In an effort to provide a more accurate prevalence rate, Ramchand et al (2011), compiled data from 19 studies measuring prevalence rates. Ramchand et al (2011) discounted studies that (1) were not representative of U.S. service members' deployment experiences and (2) those for which generalizability to the entire military was questionable. The study reported corrected prevalence rates of between 10% and 15% (Ramchand et al; 2011)

In addition to PTSD, alcohol use is prevalent in the military, at rates that are significantly higher than within the general population (Wagner, Harris, Federman, Dai, Luna, & Humphreys, 2007). Furthermore, veterans who misuse alcohol are more likely to suffer from other psychological disorders (e.g. PTSD, depression, anxiety disorders other than PTSD) (Wilk, Bliese, Kim, Thomas, McGurk, & Hoge, 2010). A 2010 study by Thomas, Wilk, Riviere, McGurk, Castro, and Hoge found that in a sample of 18,305

service members post deployment, the prevalence rate for PTSD and depression ranged from 9% - 31%; over half the individuals who met criteria for PTSD or depression post deployment were also misusing alcohol.

Aside from the elevated prevalence of mental illness in the military population, another stark reality is evident. Numbers show a steady increase in the suicide rate among the military population since 2004. In fact, a 2008 study reported that the suicide rate of military service members surpassed the civilian rate (12.4 in 100,000) reaching 35.9 in 100,000 (Army HP/RR/SP Report, 2010). Beginning in 2004, the military recognized the increased rates and made efforts to reduce the number of completed suicides, without success (Bryan, Jennings, Jobes, & Bradley, 2012). The prevalence rates of PTSD, and other mental illnesses coupled with the increased suicide rate in the military population in recent years, suggests the need for improvements in psychological treatments, and developments of preventative measures.

Treatment Seeking Trends

Several studies indicate that many service members who suffer from diagnosable psychological disorders including PTSD, depression and other anxiety disorders never receive treatment (Kessler, Frank, Edlund, Katz, Lin, & Leaf, 1997; Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996). A study by Fikretoglu, Elhai, Liu, Richardson, and Pedlar, (2009) found that of 8,441 active duty Canadian military service men and women, 14.5% (1,220) met criteria for mental illness; however, only 9.1% (767) contacted a mental health provider; of those who contacted a mental health provider the majority attended five or fewer sessions.

In comparison, a 2003 study, by Koenen, Goodwin, Struening, Hellman, and Guardino, found that in a sample of 15,606 individuals in the general population screened on National Anxiety Disorders Screening Day, 2,713 were positive for PTSD. Of the participants who screened positive 75.4% (2,045) reported being in treatment at one time, while 24.6% (668) reported never being in treatment. Compared to treatment seeking trends of veterans discussed above civilians seem to be more likely to seek treatment (13.1%) than veterans (9.1%). Based on these studies, it is apparent that service members seek treatment 30% less than the general population.

Previous research conducted to determine the reason why veterans are not seeking treatment at expected rates has determined that barriers to care decrease the likelihood of treatment utilization among military veterans. Barriers to mental health care include: (1) not knowing where to get help, (2) inadequate transportation, (3) scheduling difficulties, (4) difficulty getting time off, (5) admitting a psychological problem exists, (6) the cost of mental healthcare services, (7) stigma associated with mental illness and (8) negative beliefs about mental health care (Britt et al. 2008; Wright, Cabrera, Bliese, Adler, Hoge, & Castro 2009; Hoge et al., 2004; Britt, 2000; & Greene-Shortridge, Britt, & Andrew, 2007; Kim, Britt, Klocko, Riviere, & Adler, 2011; & Corrigan, 2004). Negative beliefs about mental health care as well as a belief that decreased unit support will occur predict increased perceptions of stigma and decrease the likelihood of treatment use among military veterans (Wright, Cabrera, Bliese, Adler, Hoge, & Castro, 2009; Hoge et al., 2004; Britt et al., 2008). Kim, Britt, Klocko, Riviere, & Adler, (2011) demonstrate that negative attitudes toward treatment exist among veterans such as: (1) not trusting mental health professionals, (2) leaders discouraging the use of mental health services, (3) the

belief that psychological problems tend to work themselves out without help, (4) feeling

that getting mental health treatment should be a last resort. Kim, Britt, Klocko, Riviere,

and Adler (2011), found that individuals who reported symptoms of a mental illness

agreed with the statement "I would think less of a team member if I knew he or she was

receiving mental health counseling" more than those who were not. It is important to

keep this result in mind, as this study aimed to determine if an actual loss of trust between

service members occurs. In addition to determining if trust between service members is

affected by the presence of mental illness, this study also investigated if there are

measureable declines in trust within the military population when treatment for a mental

illness is sought.

Stigma

General definition. Stigma has been defined as a negative attitude about a

person, involving a negative stereotype (Corrigan & Penn, 1999). The most salient

stereotypes regarding individuals with mental illnesses include that the individuals are:

(a) dangerous, (b) responsible for their illness, and (c) incompetent (Angermeyer,

Matschinger, Corrigan 2004; Corrigan, 2000; Crisp, Gelder, Rix, Meltzer, & Rowlands,

2000; Phelan, Link, Stueve, & Pescosolido, 2000; Link, Phelan, Bresnahan, &

Pescocolido, 1999).

Stigma has been conceptualized as a negative belief or attitude that the general

population holds; for those with mental illnesses these beliefs include discrimination and

fear (Corrigan & Watson, 2002; Link, 1987; Link, Cullen, Frank, & Wozniak, 1987;

Pruvis, Brandt, Rouse, Vera, & Range, 1988; Skinner, Berry, Griffith, & Byers, 1995).

Stigma is associated with mental illnesses, in general, in both civilian and military

populations. Link, Phelan, Bresnahan, Stueve, & Pescosolido, (1999) examined the

stigma of mental illnesses, in general, by measuring social distance. Link et al used

vignettes depicting different psychiatric illnesses, and found that approximately half of

the individuals were very, to somewhat-likely-to, distance themselves from individuals

with major depressive disorders. In addition, the study found that study participants were

less likely to perceive individuals suffering from mental illnesses with a

genetic/biological component such as schizophrenia as weak, or incompetent.

Conversely, individuals with a diagnosis such as alcohol addiction were viewed as weak

or incompetent, more often, due to the perception of the sufferer's ability to control

symptomology (Boysen & Vogel, 2008). When extending these results to a military

population, Dickenstein, Vogt, Handa and Litz (2010) postulate that though little research

has been completed regarding attitudes toward combat related PTSD, this diagnosis is

likely to be perceived as controllable. Therefore, those who suffer are more likely to be

labeled as weak or incompetent by others.

Stigma in the Military Population

  Historic roots. It is a common misconception that posttraumatic stress disorder is

a new consequence of war due to the development of the formal diagnosis coming in the

1980's. In fact, ancient narratives depicted PTSD, and society has provided many names

for the disorder since World War I (soldier's heart, irritable heart, shell shock) (Nash,

Silva, & Litz; 2009). Symptoms similar to today's PTSD were seen as treatable rather

than simply characteristics of a cowardly man (Nash, Silva, & Litz; 2009). However,

skepticism regarding PTSD grew after the Civil War and World War I, due to the lack of

concrete medical evidence for its symptoms (Nash, Silva, & Litz; 2009). Patients had

normal brain scans and symptoms developed in military service members who were never near a blast (Nash, Silva, & Litz; 2009). In 1916, a war congress ruled that the symptoms reported by soldiers returning from war could only be found in "hysterical" military service members with a history of mental disorders, or a flawed personality; thus began the stigmatization of mental illness in the military population (Nash, Silva, & Litz; 2009).

  Recent literature. A recent study by Britt (2000) assessed the stigma associated with medical verses psychological difficulties in a sample of 1,239 service members. All service members examined went through a comprehensive psychological and medical screening before returning to the United States. After completing the screenings, those soldiers who reported medical symptoms interviewed with a medical professional and those who endorsed psychological discomfort interviewed with a mental health professional. Upon completion of those interviews, soldiers reported increased discomfort when discussing mental health concerns, and reported that they were less likely to follow-up with the mental health professional than with the medical professional.

  The results of Britt's (2000) study exemplify the increased stigma of mental illness versus "physical" illness in the military population, and show a clear difference in the mindset of soldiers when discussing mental health difficulties. Other studies also indicate that after the screening process, individuals who met criteria for a mental illness reported an increased concern regarding stigma and other barriers to care (Hoge et al. 2004, Britt et al. 2008; Kim, Britt, Klocko, Riviere, & Adler, 2011). Additionally, service members reported concerns regarding perceptions from others including those in

leadership positions, indicating a concern about stigma associated with using mental health care options within military ranks (Kim, Britt, Klocko, Riviere, & Adler, 2011).

Trust and Military Culture

When discussing the military it is appropriate to examine the culture within this population. A review article by Burns and Mahalik (2011) summarizes the dominant masculine norms within military service members. Masculine norms such as emotional stoicism and self-reliance are taught during military training, and those who are non-compliant with those norms receive punishment such as verbal ridicule (As cited in Burns & Mahalik, 2011, [Rosen, Weber, & Martin, 2000]). Concealing emotional vulnerability is said to "promote a unified fighting force" (Arkin & Dobrofsky 1978). Those service men and women who break with these norms (emotional stoicism and self-reliance) are thought to jeopardize the safety of themselves and the entire unit (As cited in Burns & Mahalik 2011, [Brooks, 2001]). Military culture promotes a fellowship where each man will be loyal to, and fiercely protect other unit members, even at the expense of one's self (Krueger, 2000). Each military unit relies on individuals to perform their duties consistently, which promotes the confidence that each service member is covered and protected by their fellow service members at all times.

The aspect of military culture described above is integral to the current study, and provides a basis for the hypothesis that trust in a military service member who demonstrates emotional vulnerability or symptoms of mental illness may be reduced. Any trust lost based on the symptoms of a mental illness or emotional vulnerability perpetuates the stigma of mental illness in the military. This study was designed to be the first to test the hypothesis that there is a measurable loss of trust related to the disclosure

of a mental illness and provides a starting point from which to direct future research related to the stigma of mental illness, and trust in military populations.

Trust and Unit Cohesion

Group cohesion is defined by Carron, and Brawley (1998) as a "dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of members' affective needs. In the context of the military, the "group" is the unit. Social interaction, trust, and support are imperative for a successful unit, and are components and characteristics of unit cohesion. In a 2010 study by Dickstein, McLean, Mintz, Conoscenti, Steenkamp, Benson, and Litz, the degree of unit cohesion was measured using a likert response scale to items such as: to what extent do you feel you belong in your present unit, to what extent is your unit like a family to you, do you respect the officers in your unit, do you trust the airmen in your unit, and how good are the available role models and leaders in your unit. The items in the scale indicate that trust is an integral part of unit cohesion. "The ability to objectively quantify the level of trust within a team is an essential precursor to determining the factors that influence trust within a team or to understanding the effects of different levels of trust on performance" (Adams, Bruyn, & Chung-Yan, 2004). The results of this study quantify the level of trust between unit members in various scenarios to target the effects of mental illness on the trust between unit members. Thus, this research creates the foundation for future research studies which could then determine the effects of trust and mental illness on the performance of military units.

Purpose of the Study

This study aims to determine if the presence of a mental illness within a military service member affected the trust another unit member had in him/her. This study also aimed to determine whether or not variables such as: (1) the amount of combat exposure, (2) gender, (3) age, (4) the age participants entered the military and (5) number of deployments reported were moderators to the relationship between the presence of a mental illness and trust.

Hypotheses

(1) Participants will be less trusting of a unit member who is displaying symptoms of a mental illness while on duty and working closely in the same unit.

(2) There will not be a significant difference in the level of trust participants have in unit members displaying symptoms of a mental illness and receiving treatment and in unit members displaying symptoms of a mental illness without receiving treatment.

(3) Exploratory analyses were employed to determine whether variables such as: (1) the amount of combat exposure, (2) gender, (3) age, (4) the age participants entered the military and (5) number of deployments reported were moderators to the relationship between the presence of a mental illness and trust.

CHAPTER III: METHOD

Method

Participants

Two-hundred and twenty individuals participated in this study; however, two-hundred and five were included in the analysis, all of whom are veterans of Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF), and/or Operation New Dawn (OND). Fifteen surveys were not included in the analysis because participants did not answer validity questions correctly. Validity questions were included to attempt to control for random responses submitted solely to receive compensation. Most participants were male (82%) and ranged in age from 21 to 67 years ($M = 31.81$, $SD = 7.04$). The majority of the participants (95.1%) entered the military before age 25 and most participants (89.4%) had obtained at least an associate degree. Participants represented several branches of the military: most (54.6%) were in the Army, 15.1% were in the Marines, 12.2% were in the Navy, 11.2% were in the Air Force and 6.8% were in the National Guard. Of the veterans surveyed, most (89.8%) have been deployed at least once; of those deployed 46.3% saw light combat exposure, 22% saw light-moderate, 15.6% saw moderate, 11.2% saw moderate-heavy, and 4.9% saw heavy. Demographic data was not significantly different across the three scenarios (see Table 1).

Table 1

Summary of Demographic Data within each Scenario Group

	Scenario 1 (n=74)		Scenario 2 (n=75)		Scenario 3 (n=56)				
			Statistics						
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	F	*p*	R^2
Age	*32.08*	*8.71*	*31.49*	*5.85*	*31.89*	*6.07*	*.113*	*.875*	*.001*
Age Entered Military	*20.41*	*3.42*	*19.97*	*2.66*	*19.59*	*2.42*	*1.28*	*.28*	*.013*
Number of Deployments	*1.78*	*1.58*	*1.88*	*1.65*	*1.88*	*1.27*	*0.9*	*.914*	*.001*
Combat Exposure	*12.01*	*10.59*	*13.39*	*10.69*	*10.71*	*9.37*	*1.089*	*.338*	*.001*

Informed Consent

The consent process for this study included participants clicking the NEXT, button on the survey page. Participants read a participant letter (Appendix B) that provided all essential information about the study; they then clicked the NEXT button to consent to participation in the study. This process allowed complete anonymity of participants as no other identifying information was gathered through the survey. In addition, the website Survey Monkey, used to host the survey, had a function which discontinue collection of IP addresses to further secure the anonymity of the participants. At the end of the survey, participants were asked to either submit or cancel their responses allowing participants to cancel their responses after the survey was completed without penalty. In addition, this investigator provided all participants with her e-mail address should they have any further questions regarding any aspect of the study.

Measures

Demographics questionnaire. This questionnaire included thirteen face-valid, multiple-choice and fill-in questions; compiled by this researcher (Appendix C). The questions aimed to assess simple demographic data about participants. Data collected in this questionnaire was used to describe the sample, and in evaluating hypotheses (2-5). Questions included basic information such as age, gender, and occupation.

Combat exposure scale. This is a 7-item self-report measure that measured participants past wartime stressors (Appendix D). An evaluation of the measure by Keane, Fairbank, Caddell, Zimering, Taylor, and Mora (1989) determined that the internal consistency was .85 (coefficient alpha) and that the scale was stable over a one-week test retest. Additionally, this scale measures one reliable factor, combat exposure,

proven by only one eigenvalue greater than 1.0 (Keane, Fairbank, Caddell, Zimering, Taylor, and Mora; 1989). Total scores on this scale range from 0-41 and measured on 5-point likert scales. The likert scales measure frequency, duration, and degree of loss. Scores are calculated using weighted scores and are then placed into categories of combat exposure: low, low-moderate, moderate, moderate-high, and high.

Unit cohesion scale. This measure is a 5-item scale used in a study by Dickstein, McLean, Mintz, Conoscenti, Steenkamp, Benson, and Litz (2010) which they derived from the Deployment Social Support Scale from the Deployment Risk and Resilience Inventory (King, King, Vogt, Knight, & Samper, 2006) (Appendix E). The wording of the items was modified in order to refer to the unit the participant spent the longest time. Items originally stated "in your unit" and were modified to state "in the unit you spent the longest time". Participants used a 5 point likert scale from strongly disagree to strongly agree. This likert scale was used in the original Deployment Social Support Scale. Dickstein et al. found their 5-item measure of unit cohesion to have adequate internal consistency at alpha=.82.

Trust in teams scale. This measure is a 24 item self-report measure constructed by Adams, Bruyn, and Chung-Yan in 2006 to measure trust in small military teams (Appendix F). This measure was used in order to determine the participants trust in a unit member depicted in a given scenario provided by the researcher. The scale was developed by creating a model of trust, then using small focus groups of military personnel who serve as members of armored vehicle reconnaissance crews to provide an informal validation of the model. "The final model of trust development in small teams depicts trust development as a process simultaneously influenced by the interaction of

qualities of the trustee, the trustor, and several contextual factors" (Adams, Bruyn, & Chung-Yan; 2004). Factor analysis was employed and determined that of the factor models tested a four factor model was the best fit. The scale produces five scores, these scores capture four dimensions of trust and overall trust: (1) Global Trust, (2) Competence, (3) Integrity, (4) Benevolence, and (5) Predictability. Scores on the trust in teams scale are achieved by adding the 6 items that make up each scale and dividing by 6. This leads to a minimum score of 1 and a maximum score of 7 on all scales. Blais, and Thompson (2009) explored the psychometric properties of the scale created by Adams, Bruyn, and Chung-Yan, 2004 and Adams and Sartori, 2006. According to Blais and Thompson (2009), the internal consistency reliability estimates (Cronbach's alphas) of the scores were above .70 ranging from .83 to .93 and the subscales were positively and significantly inter-correlated, with correlation coefficients ranging from .63 to .83. Blais and Thompson (2009) developed the scale used in this study, which shortened the original scale from 40 to 24 questions. They retained six items for each of the dimensions that uniquely loaded on one of the four dimensions of trust. With regard to construct validity Blais and Thompson (2008) found that the Trust in Teams subscales were positively highly significantly correlated to two similar measures developed by Zolin and Hinds (2004) and van der Kloet's Team Trust Scale (2005). Subscales were found by Blais and Thompson (2008) to be capturing the same construct without completely overlapping.

For the purpose of this study, the scale was modified to assess trust in a single team member. The team member in question was a fictional team member. This researcher did not change the integrity of the statements in this scale. The only changes

made were to convert statements from plural to singular. The original scale is presented in Appendix G.

       Scenarios. The current study used three scenarios. Scenario A depicted a typical unit member whom a soldier may have encountered in a unit. The unit member depicted in scenario A did not display symptoms of a mental illness (Appendix H). Scenario B depicted a unit member who is displaying symptoms of a mental illness. The unit member in the scenario is labeled as endorsing symptoms of PTSD but remains competent at his assigned tasks (Appendix H). Scenario C depicted the same unit member as scenario B except he received treatment and was deemed fit for duty (Appendix H). This researcher constructed the scenarios used in this study.

Procedure

       Data collection. Participants were recruited to participate in this study in two ways. The first way involved participants receiving access to the survey via the Facebook group page. The second involved using Amazon Mechanical Turk (MTurk). MTurk is an online system operated by Amazon.com that allows individuals to receive compensation for completing Human Intelligence Tasks (HITs). Previous research has shown that MTurk allows researchers to gain access to larger, more diverse samples efficiently (Buhrmester, Kwang, & Gosling, 2011). An online HIT was created on MTurk. The description of the survey noted that participants must be United States veterans in order to qualify to participate.   Participants who completed the task received $1.00 as compensation. The HIT required the participants to click on a link to Surveymonkey.com where they completed the survey. At the end of the survey, they were provided with a numerical code to enter into MTurk to receive compensation.

Following receiving access via Facebook or MTurk, participants filled out the demographic questionnaire, combat exposure scale, and unit cohesion measure. The participants were then randomly assigned to one of three groups. The first group is the control group receiving scenario A (Appendix H) which depicted a scenario of a service member who was competent and who did not display symptoms of a mental illness. The second group was directed to scenario B (Appendix H) which depicted a service member who completed his or her duties but experienced symptoms of PTSD and confided in the participant regarding those symptoms. The third group was directed to scenario C (Appendix H) which depicted a service member who was returning to duty after receiving treatment, and has been deemed fit for duty, but had previously confided in the participant regarding symptoms of PTSD. Following the scenarios, the participants were asked to complete the trust in teams scale. This scale asked participants to rate the degree to which they agreed with a statement on a likert scale. At the conclusion of the survey participants were thanked and offered a final opportunity to "cancel" or not submit their results without penalty. Due to the use of MTurk and in an attempt to control for random responses for the purpose of compensation, this researcher included three validity items: (1) "the answer to this question is strongly agree", (2) "the answer to this question is agree", and (3) "how many days are there in one week". Two-hundred and twenty participants responded to the survey, of those 15 surveys were not included in the analysis because they did not answer these validity questions correctly.

CHAPTER IV: RESULTS

Statistical Analysis

Hierarchical multiple regression models were estimated for each of the primary outcome variables (Global trust, Predictability, Benevolence, Competence, and Integrity). Several covariates including gender, age, combat exposure, age participants entered the military, and number of deployments, were entered on the first predictor block (i.e., the covariate block). Two dummy coded predictor variables were entered on the second predictor block (i.e., the scenario block). The significance of the incremental variance associated with the scenario block is akin to testing the "main effect" of scenario, over and above the effects of the covariates. In these first two dummy coded predictors, the control scenario comprised the reference group. This scenario depicted a service member devoid of psychological distress. The predictor labeled 'symptoms' below contrasts the control scenario with a scenario in which a service member discloses a mental illness but does not receive treatment. The predictor labeled 'symptoms plus treatment' contrasts the control scenario with a scenario in which a service member discloses a mental illness and receives treatment. A second set of dummy codes was entered to generate the remaining pairwise contrast between the 'symptoms' and 'symptoms plus treatment' scenarios. Although the results of this contrast are not presented in Tables 2 through 6, they are embedded in the text below. The unstandardized regression coefficients for these scenario predictors code the mean difference on the outcome for the two groups in question, adjusted for the presence of the covariates. Negative coefficients suggest the mean is lower than the reference group's mean. For example, in Table 2, the coefficient for the 'symptoms' code is -.138, suggesting that the average participant in the 'symptoms'

scenario scored .138 points lower than the average participant in the 'control' scenario.

Similarly, in Table 2, the coefficient for the 'symptoms plus treatment' code is .289,

suggesting that the average participant exposed to the 'symptom plus treatment' scenario

scored .289 points higher than the average participant exposed to the control scenario.

For the variable of global trust, the coefficient (not presented in Table 2) for the

'symptoms plus treatment' code is .427, suggesting that the average participant exposed

to the 'symptom plus treatment' scenario scored .427 points higher than the average

participant exposed to the 'symptom' scenario. The p values have their usual

interpretations and the r_s^2 is a relevant effect size estimate for the individual predictors

quantifying the proportion of incremental variance attributed to the predictor, over all

other predictors included in the analysis. (All coefficients presented in Tables 2 through 6

derive from the final models.)

Implications for Trust with Disclosure of Mental Illness

Global Trust. The overall model predicting global trust was significant ($R^2 =$

.067). The covariates entered on the first predictor block did not account for significant

variance ($R^2 = .032$). Scenarios, entered on the second block, accounted for significant

incremental variance ($\Delta R^2 = .035$). Global trust scores were significantly higher when

participants read the symptom plus treatment scenario than when participants read the

symptom scenario (*b=.427, p=.007,* $r_s^2=.035$*)*. There was not a significant difference in

global trust scores when comparing the participants who read the control scenario to

those who read the symptom plus treatment scenario, ($r_s^2=.016$) or the symptom scenario

($r_s^2=.004$). Of the remaining individual predictors, only combat exposure was a

significant unique predictor, suggesting that higher levels of combat exposure were

associated with higher levels of global trust (r_s^2 = .025).

Table 2

Results of hierarchical regression models predicting global trust from experimental
scenarios and covariates

Predictors / Blocks	Statistics			
	b	*se*	*p*	r_s^2
Block 1: Covariates	*F(5, 199) = 1.313, p = .260, R^2 = .032*			
Gender (0 = female, 1 = male)	*.192*		*.250*	*.062*
Age	*-.001*		*.906*	*<.001*
Age entered military	*.011*		*.629*	*.011*
Deployments	*.005*		*.902*	*<.001*
Combat exposure	*.014*		*.022*	*.025*
Block 2: Scenarios	*$\Delta F(2, 197) = 3.721, p = .026, \Delta R^2 = .035$*			
Symptoms	*-.138*		*.347*	*.004*
Symptoms and treatment	*.289*		*.069*	*.016*

Note. Full model was statistically significant, F(7, 204) = 2.027, p =.053 , R2 = .067.

Predictability. The overall model predicting predictability was significant (R^2 =

.087). The covariates entered on the first predictor block did not account for significant

variance (R^2 = .025). Scenarios, entered on the second block, accounted for significant

incremental variance (ΔR^2 = .062). Predictability scores for individuals exposed to the

control scenario were significantly higher than for those exposed to the symptom scenario

(r_s^2 =.184). Predictability scores for individuals who read the symptoms plus treatment

scenario were significantly higher than for participants who read the symptom scenario

(*b*=.689, *p*=01, r_s^2 =.062). Finally, there was not a significant difference in predictability

scores when comparing the participants who read the control scenario to those who read

the symptoms plus treatment scenario (r_s^2 =.015). Of the remaining individual predictors,

only combat exposure was a significant unique predictor from the final model; suggesting

that higher levels of combat exposure were associated with higher levels of predictability ($r_s^2 = .024$).

Table 3

Results of hierarchical regression models predicting predictability from experimental scenarios and covariates

Predictors / Blocks	Statistics			
	b	*se*	*p*	r_s^2
Block 1: Covariates	$F(5, 199) = 1.007, p = .415, R^2 = .025$			
Gender (0 = female, 1 = male)	*.072*		*.719*	*<.001*
Age	*.004*		*.755*	*<.001*
Age entered military	*-.006*		*.816*	*<.001*
Deployments	*.019*		*.712*	*<.001*
Combat exposure	*.017*		*.024*	*.024*
Block 2: Scenarios	$\Delta F(2, 197) = 6.710, p = .002, \Delta R^2 = .062$			
Symptoms	*-.349*		*.047*	*.184*
Symptoms and treatment	*.340*		*.075*	*.015*

Note. Full model was statistically significant, $F(7, 204) = 2.678$, p =.011 , R2 = .087.

Benevolence. The overall model predicting benevolence was nonsignificant ($R^2 = .074$). The covariates entered on the first predictor block did not account for significant variance ($R^2 = .048$). Scenarios, entered on the second block, did not account for significant incremental variance ($\Delta R^2 = .026$). Of the individual predictors, only combat exposure was a significant unique predictor from the final model—suggesting that higher levels of combat exposure were associated with higher levels of benevolence ($r_s^2 = .025$).

Table 4

Results of hierarchical regression models predicting benevolence from experimental scenarios and covariates

Predictors / Blocks	Statistics			
	b	*se*	*p*	r_s^2
Block 1: Covariates	$F(5, 199) = 2.027, p = .076, R^2 = .048$			
Gender (0 = female, 1 = male)	*.362*		*.055*	*.017*
Age	*-.004*		*.742*	*.001*
Age entered military	*.016*		*.526*	*.002*
Deployments	*.015*		*.756*	*<.001*
Combat exposure	*.016*		*.022*	*.025*
Block 2: Scenarios	$\Delta F(2, 197) = 2.737, p = .067, \Delta R^2 = .026$			
Symptoms	*-.080*		*.630*	*.001*
Symptoms and treatment	*.322*		*.073*	*.015*

Note. Full model was statistically significant, F(7, 204) = 2.255, p =.32 , R2 = .074.

Competence. The overall model predicting competence was nonsignificant (R^2 = .045). The covariates entered on the first predictor block did not account for significant variance (R^2 = .022). Scenarios, entered on the second block, did not account for significant incremental (ΔR^2 = .023). There were no individual predictors that uniquely predicted the final model.

Table 5

Results of hierarchical regression models predicting competence from experimental
scenarios and covariates

| Predictors / Blocks | Statistics | | | |
	b	se	p	r_s^2
Block 1: Covariates	F(5, 199) = .905, p = .479, R^2 = .022			
Gender (0 = female, 1 = male)	.197		.259	.006
Age	.001		.940	.000
Age entered military	.014		.560	.002
Deployments	-.027		.553	.002
Combat exposure	.011		.093	.014
Block 2: Scenarios	ΔF(2, 197) = 2.350, p = .098, ΔR^2 = .023			
Symptoms	-.157		.308	.005
Symptoms and treatment	.202		.225	.004

Note. Full model was nonsignificant, F(7, 204) = 1.326, p =.240 , R2 = .045.

Integrity. The overall model predicting integrity was nonsignificant (R^2 = .043).

The covariates entered on the first predictor block did not account for significant variance

(R^2 = .025). Scenarios, entered on the second block, did not account for significant

incremental (ΔR^2 = .018). Of the individual predictors, only combat exposure was a

significant unique predictor from the final model—suggesting that higher levels of

combat exposure were associated with higher levels of integrity (r_s^2 = .020).

Table 6

Results of hierarchical regression models predicting integrity from experimental
scenarios and covariates

Predictors / Blocks	Statistics			
	b	se	p	r_s^2
Block 1: Covariates	$F(5, 199) = 1.032, p = .400, R^2 = .025$			
Gender (0 = female, 1 = male)	.136		.432	.003
Age	-.005		.594	.001
Age entered military	.020		.393	.004
Deployments	.014		.754	<.001
Combat exposure	.013		.044	.020
Block 2: Scenarios	$\Delta F(2, 197) = 1.820, p = .165, \Delta R^2 = .018$			
Symptoms	.035		.820	<.001
Symptoms and treatment	.293		.076	.015

Note. Full model was not statistically significant, $F(7, 204) = 1.068$, p =.270 , R2 = .043.

Moderators

Exploratory Analysis. To determine if age, age at which participants entered the military,

gender, number of deployments, or combat exposure characteristics moderate the effect

of scenarios on the outcomes, exploratory moderator analyses using regression models

were conducted. In these exploratory regression models, predictors were entered in three

blocks: block 1 captured the main effect of scenarios; block 2 captured the main effect of

the moderator (e.g., participant age); and block three captured the overall interaction.

Results of these analyses indicated that the effects of scenarios on the outcome variable

did not vary significantly as a function of the moderators.

CHAPTER V: DISCUSSION

Discussion

The purposes of this study were to determine if trust between military team members declined after disclosing symptoms of a mental illness and to investigate possible moderators to this relationship through exploratory analysis. Historically, stigma has been broken down into two categories, internal and external. External stigma is a negative belief or attitude that the general population holds (Corrigan & Watson, 2002; Link, 1987; Link, Cullen, Frank, & Wozniak, 1987; Pruvis, Brandt, Rouse, Vera, & Range, 1988; Skinner, Berry, Griffith, & Byers, 1995). In the case of this research if results showed that trust decreased with a disclosure of symptoms of a mental illness, the focus of this discussion would have fallen in the realm of external stigma. Inconsistent with service members perceptions as depicted in the literature (Nash, Silva, and Litz 2009; Hoge et al. 2004 & As cited in Burns & Mahalik 2011, [Brooks, 2001]), and inconsistent with this researcher's hypothesis, this study found that global trust did not decline when a disclosure of symptoms of mental illness was made. Not only did global trust not decline, several facets of trust; competence, integrity, benevolence, and predictability also showed no decline. This indicated that service members felt that the fictional team member who disclosed symptoms of a mental illness was not less competent or predictable and did not have less integrity or motivation to protect them than those who did not display symptoms of a mental illness.

The results of this study are not consistent with the existence of an actual measureable loss in trust with disclosure of a mental illness. The results support the fact that internal stigma may be to blame for the perceptions that military service members

hold, specifically that trust would be lost if a disclosure was made. Internal stigma is the construct that occurs when external stigma is internalized, and becomes a belief held by an individual (Corrigan & Watson, 2002; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Link & Phelan, 2001). In the case of this particular study, results suggest that service members may be internalizing perceived external stigma, as an actual decrease in trust was not found. If a service member internalizes these perceptions and believes that trust will be lost within his/her unit if mental healthcare is sought, this may significantly reduce the likelihood of that individual seeking treatment. Internal stigma can result in individuals taking on responsibility for their disorder and presenting symptoms. This sense of responsibility can decrease life satisfaction and significantly reduce the likelihood of an individual seeking treatment. Individuals who internalize the perceived negative beliefs of others endure a lower quality of life regardless of having depressive symptoms, or a diagnosis of a mental illness (Rusch, Corrigan, Todd, & Bodenhausen, 2010).

There is a breadth of research supporting the notion that the stigma associated with mental healthcare prevents military service members from seeking treatment (Nash, Silva, and Litz 2009, Britt et al. 2008; Wright, Cabrera, Bliese, Adler, Hoge, & Castro 2009; Hoge et al., 2004; Britt, 2000; & Greene-Shortridge, Britt, & Andrew, 2007; Kim, Britt, Klocko, Riviere, & Adler, 2011; & Corrigan, 2004). The literature has also been specific in stating that the stigma of mental illness in the military may cause service members to avoid seeking treatment due to the fear of losing the trust of their peers (Nash, Silva, & Litz 2009; Hoge et al. 2004 & As cited in Burns & Mahalik 2011, [Brooks, 2001]). The results of this study are not consistent with this perception; in fact,

results suggest that the opposite may be true. The results of this study did not support the presence of a decline in trust based on the disclosure of symptoms of a mental illness. Additionally, the results suggest that when treatment seeking behavior is observed a significant increase in predictability (i.e. increased agreement with statements such as I can guess what my teammate is likely to do) and global trust scores may be observed. Predictability and global trust scores of those participants who were exposed to the scenario where the fictional service member sought treatment were trending toward being significantly higher than those exposed to the control scenario where no mental health treatment or mental illness was disclosed. This suggests that receiving mental health treatment may increase the amount of trust unit members have in one another, which is noteworthy given the literature regarding the stigma of treatment for a mental illness in both the military and civilian populations. Many previous studies reported on the perception of trust lost not only in a military population but also in civilian populations. This study's results are inconsistent with the previously reported relationship between trust and disclosure of a mental illness discussed in the literature. More importantly, the results of this study indicate that disclosure of a mental illness followed by treatment may result in significantly higher predictability and global trust.

With regard to the second purpose of this study, exploratory analysis found that none of the tested variables (age, gender, age participants entered the military, number of deployments, or combat exposure) moderated the relationship between trust scores and scenario. Although this analysis did not yield any significant moderators, it was shown that higher levels of combat exposure were associated with higher levels of global trust, predictability, benevolence, and integrity. Although this was not predicted, given the

demands of combat and the close relationships forged during combat, this result is not surprising.

Significance and Future Research

This study attempted to quantify the effects of mental illness on global trust and four facets of trust in a military sample. This study provides information regarding which facet of trust is most affected by the presence of a mental illness (competence, integrity, benevolence, or predictability) and suggests that trust does not decline based on disclosure of a mental illness. This study's findings that trust may not change as a function of a unit member displaying symptoms of mental illness and that treatment for a mental illness may improve trust scores on the facets of global trust and predictability, provides the basis further research aimed to challenge the perceptions noted by Nash, Silva, and Litz (2009); and Hoge et al. (2004). The findings of this study can be used to piece together projects geared towards measuring this construct in order to produce a body of literature that can be used to pave the way for significant changes in the perceptions of military service members regarding the disclosure of symptoms of a mental illness and seeking treatment for those symptoms. These findings as well as the current literature indicate the need for advocacy in the field of mental health. Furthermore, research that differentiates perception from reality is needed in order to help combat the perceptions of individuals suffering from mental illness and help those who are actively avoiding disclosure and/or treatment. Especially within military culture, results like these coupled with further research can serve to alleviate myths about mental health care and reduce the internal stigma associated with receiving treatment for mental illness.

Limitations

This study has a number of limitations that warrant discussion. First, the study sample used a veteran rather than active duty sample, which may limit the generalizability of findings to active duty service members. For instance, scores on the trust in teams scale may not generalize to an active duty sample given the fact that the participants were not under the same stressors such as active combat. This does not necessarily preclude the results from generalizing but does provide an area for future studies to address. Moreover, this study relied on scenarios depicting a fictional team member; findings that are more robust may occur if participants were able to draw from personal experience, working with a team member who disclosed symptoms of a mental illness. Closely monitoring internal validity with this type of structure will be important. A scenario depicting the co-morbidity of alcohol use and PTSD was not presented in this study. Due to the high prevalence of co-morbid mental illness and alcohol use in the military population, this is an important area for future studies to address. In addition, this study relied exclusively on self-report, an additional study where in the primary outcomes were not self-report measures may increase the generalizability and reliability of results.

References

Adams B. D., Bruyn, L. E., & Chung-Yan, G. (2004). Creating a measure of trust in small military teams. Defense Research and Development Canada, Toronto.

American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders (4th ed., text rev.). Washington, DC: Author.

Angermeyer, M. C., Matschinger, H., & Corrigan, P. W. (2004). Familiarity with mental illness and social distance from people with schizophrenia and major depression: Testing a model using data from a representative population survey. Schizophrenia Research, 69(2-3), 175-175-182. doi:10.1016/S0920-9964(03)00186-5

Blais, A., Thompson, M. (2009). The Trust in Teams and Trust in Leaders Scale: A second look at their psychometric properties and item selection. Defense Research and Development Canada, Toronto

Boyd, J. E., Katz, E. P., Link, B. G., & Phelan, J. C. (2010). The relationship of multiple aspects of stigma and personal contact with someone hospitalized for mental illness, in a nationally representative sample. Social Psychiatry and Psychiatric Epidemiology, 45(11), 1063-1070. doi:10.1007/s00127-009-0147-9

Boysen, G. A., & Vogel, D. L. (2008). Education and mental health stigma: The effects of attribution, biased assimilation, and attitude polarization. Journal of Social and Clinical Psychology, 27(5), 447-447-470. doi:10.1521/jscp.2008.27.5.447

Brailey, K., Vasterling, J. J., Proctor, S. P., Constans, J. I., & Friedman, M. J. (2007). PTSD symptoms, life events, and unit cohesion in U.S. Soldiers: Baseline findings from the neurocognition deployment health study. Journal of Traumatic Stress, 20(4), 495−503.

Britt, T. W. (2000). The stigma of psychological problems in a work environment: Evidence from the screening of service members returning from Bosnia. Journal of Applied Social Psychology, 30(8), 1599-1618. doi:10.1111/j.15591816.2000.tb02457.x

Britt, T. W., Greene-Shortridge, T. M., Brink, S., Nguyen, Q. B., Rath, J., Cox, A. L., Hoge, C.W., Castro, C.A. (2008). Perceived stigma and barriers to care for psychological treatment: Implications for reactions to stressors in different contexts. *Journal of Social and Clinical Psychology, 27*(4), 317-335. doi:10.1521/jscp.2008.27.4.317

Bryan, C. J., Jennings, K. W., Jobes, D. A., Bradley, J. C. (2012). Understanding and preventing military suicide. *Archives of Suicide Research*, *16*(2), 95-110.

Burns, S. M., & Mahalik, J. R. (2011). Suicide and dominant masculinity norms among current and former united states military servicemen. *Professional Psychology: Research and Practice, 42*(5), 347-353. doi: 10.1037/a0025163

Cersovsky, S. B. (2011). Fighting the war within: Suicide as an individual and public health challenge in the U.S. army. *Psychiatry, 74*(2), 110-4. doi: 10.1521/psyc.2011.74.2.110

Corrigan, P. W. (2000). Mental health stigma as social attribution: Implications for research methods and attitude change. *Clinical Psychology: Science and Practice, 7*(1), 48-67. doi:10.1093/clipsy/7.1.48

Corrigan, P. W. (2004). How stigma interferes with mental health care. American Psychologist, 59, 614-625.

Corrigan, P. W., & Penn, D. L. (1999). Lessons from social psychology on discrediting

psychiatric stigma. American Psychologist, 54(9), 765-776. doi:10.1037/0003-066X.54.9.765

Corrigan, P. W., & Watson, A. C. (2002). The paradox of self-stigma and mental illness. Clinical Psychology: Science and Practice, 9(1), 35-53. doi:10.1093/clipsy/9.1.35

Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatisation of people with mental illnesses. *British Journal of Psychiatry, 177*(00071250), 4-4-7.

Dickstein, Benjamin D., Dawne S. Vogt, Sonia Handa and Brett T. Litz. 2010. "Targeting Self-Stigma in Returning Military Personnel and Veterans: a Review of Intervention Strategies." *Military Psychology* 22:224-236.

Dickstein, B. D., McLean, C. P., Mintz, J., Conoscenti, L. M., Steenkamp, M. M., Benson, T. A., Litz, B. T, (2010). Unit cohesion and PTSD symptom severity in air force medical personnel. *Military Medicine, 175*(7), 482-6.

Defense Manpower Data Center (Department of Defense). (2008). Contingency Tracking System (CTS) Deployment File for Operations Enduring Freedom and Iraqi Freedom, as of December 31, 2008. Washington, DC: Author. Retrieved from: http://www.gao.gov/new.items/d061068.pdf

Fikretoglu, D., Elhai, J. D., Liu, A., Richardson, J. D., & Pedlar, D. J. (2009). Predictors of likelihood and intensity of past-year mental health service use in an active Canadian military sample. Psychiatric Services, 60(3), 358-366.

Fung, K. M. T., Tsang, H. W. H., Corrigan, P. W., Lam, C. S., & Cheung, W. (2007).

"Measuring self-stigma of mental illness in china and its implications for recovery":

Erratum. *International Journal of Social Psychiatry, 53*(6), 576-576.

doi:10.1177/0020764007086524

Greene-Shortridge, T. M., Britt, T. W., & Andrew, C. (2007). The stigma of mental

health problems in the military. Military Medicine, 172(2), 157-161.

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L.

(2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to

care. The New England Journal of Medicine, 351(1), 13-22.

doi:10.1056/NEJMoa040603

Holmes, E.P., & River, l.P. (1998). Individual strategies for coping with the stigma of

severe mental illness. Cognitive and Behavioral Practice, (5), 231-239.

Hosek, J., Kavanagh, J., & Miller, L. L. (2006). How deployments affect service

members. Santa Monica, CA: RAND Corporation.

Kato, L. N. (2010). The psychological adjustment of veterans returning from Afghanistan

and Iraq The School of Psychology). ProQuest Dissertations and Theses.

Keane, T. M., Fairbank, J. A., Caddell, J. M., Zimering, R. T., Taylor, K. L., & Mora, C.

A. (1989). Clinical evaluation of a measure to assess combat exposure. *Psychological

Assessment: A Journal of Consulting and Clinical Psychology, 1*(1), 53-55. doi:

10.1037/1040-3590.1.1.53

Kessler, R. C., Frank, R. G., Edlund, M., Katz, S. J., Lin, E., & Leaf, P. (1997).

Differences in the use of psychiatric outpatient services between the United States and

Ontario. New England Journal of Medicine, 336, 551-557.

Kim, P. Y., Britt, T. W., Klocko, R. P., Riviere, L. A., & Adler, A. B. (2011). Stigma,

negative attitudes about treatment, and utilization of mental health care among

soldiers. Military Psychology, 23(1), 65-65-81. doi:10.1080/08995605.2011.534415

Kim, P. Y., Thomas, J. L., Wilk, J. E., Castro, C. A., & Hoge, C. W. (2010). Stigma,

barriers to care, and use of mental health services among active duty and national

guard soldiers after combat. Psychiatric Services, 61(6), 572-588.

doi:10.1176/appi.ps.61.6.582

King, D. W., King, L. A., Vogt, D. S., Knight, J., & Samper, R. E. (2006). Deployment

Risk and Resilience Inventory: A collection of measures for studying deployment-

related experiences of military personnel and veterans. *Military Psychology, 18*, 89-

120.

Koenen, K. C., Goodwin, R., Struening, E., Hellman, F., & Guardino, M. (2003).

Posttraumatic stress disorder and treatment seeking in a national screening sample.

Journal of Traumatic Stress, 16(1), 5-5-16. doi:10.1023/A:1022051009330

Krueger, G. P. (2000). In Kazdin A. E. (Ed.), *Military culture*. United States: doi:

10.1037/10520-111

Link, B. G. (1987). Understanding labeling effects in the area of mental disorders: An

assessment of the effects of expectations of rejection. American Sociological Review,

52(1), 96-112. doi:10.2307/2095395

Link, B. G., Cullen, F. T., Frank, J., & Wozniak, J. F. (1987). The social rejection of

former mental patients: Understanding why labels matter. American Journal of

Sociology, 92(6), 1461-1500. doi:10.1086/228672

Link, B. G., Cullen, F. T., Struening, E. L., Shrout, P. E. & Dohrenwend (1989). A

modified labeling theory approach to mental disorders: An empirical assessment.

American Sociological Review, 54(3), 400-423. doi:10.2307/2095613

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. Annual Review of
Sociology, 27, 363-385. doi:10.1146/annurev.soc.27.1.363

Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A., & Pescosolido, B. A. (1999).
Public conceptions of mental illness: Labels, causes, dangerousness, and social
distance. American Journal of Public Health, 89(9), 1328-1333.
doi:10.2105/AJPH.89.9.1328

Magee, W. J. Eaton, W. W., Wittchen, H. U., McGonagle, K. A., & Kessler, R. C.
(1996). Agoraphobia, simple phobia, and social phobia in the National Comorbidity
Survey. Archives of General Psychiatry, 53, 159-167.

Milliken, C., Auchterlonie, J., & Hoge, C. (2007). Longitudinal assessment of mental
health problems among active and reserve component soldiers returning from the Iraq
war. Journal of the American Medical Association, 298, 2141-2148.

National Vietnam Veterans Readjustment Study (ed.). Contractual report of findings from
the National Vietnam Veterans Readjustment Study. Volume I: executive summary,
description of findings, and technical appendices., (pp: 1-21)

Nash, W. P., Silva, C., & Litz, B. (2009). The historic origins of military and veteran
mental health stigma and the stress injury model as a means to reduce it. Psychiatric
Annals, 39(8), 789-794.

Owens, G. P., Herrera, C. J., & Whitesell, A. A. (2009). A preliminary investigation of
mental health needs and barriers to mental health care for female veterans of Iraq and
Afghanistan. Traumatology, 15(2), 31-37.

Phelan, J. C., Link, B. G., Stueve, A., & Pescosolido, B. A. (2000). Public conceptions of

mental illness in 1950 and 1996: What is mental illness and is it to be feared? Journal of Health and Social Behavior, 41(2), 188-188-207.

Purvis, B., Brandt, R., Rouse, C., & Vera, W. (1988). Students' attitudes toward hypothetical chronically and acutely mentally and physically ill individuals. Psychological Reports, 62(2), 627-627-630.

Ramchand, R., Schell, T. L., Jaycox, L. H., & Tanielian, T. (2011). Epidemiology of trauma events and mental health outcomes among service members deployed to iraq and afghanistan. In J. I. Ruzek, P. P. Schnurr, J. J. Vasterling & M. J. Friedman (Eds.), (pp. 13-34). United States: doi: 10.1037/12323-001

Rüsch, N., Corrigan, P. W., Todd, A. R., & Bodenhausen, G. V. (2010). Implicit self-stigma in people with mental illness. *Journal of Nervous and Mental Disease, 198*(2), 150-153. doi:10.1097/NMD.0b013e3181cc43b5

Sadock, B. J., & Sadock, V. A. (2007). *Kaplin and Sadock's Synopsis of Psychiatry Behavioral Sciences/Clinical Psychiatry* (10th ed.). Philadelphia, PA: Lippincott Williams & Walkins.

Seal, K., Bertenthal, D., Miner, C., Sen, A., & Marmar, C. (2007). Bringing the war back home: Mental health disorders among 103,788 US veterans returning from Iraq and Afghanistan seen at Department of Veterans Affairs facilities. Archives of Internal Medicine 167, 476-482.

Seal, K., Metzler, T., Gima, K., Bertenthal, D., Maguen, S., & Marmar, C. (2009). Trends and risk factors for mental health diagnoses among Iraq and Afghanistan veterans using Department of Veterans Affairs Healthcare, 2002-2008. American Journal of Public Health, 99, 1651-1658.

Skinner, L. J., Berry, K. K., Griffith, S. E., & Byers, B. (1995). Generalizability and specificity of the stigma associated with the mental illness label: A reconsideration twenty-five years later. Journal of Community Psychology, 23(1), 3-3-17. doi:10.1002/1520-6629(199501)23:1

Tanielian, T., & Jaycox, L. (2008). Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery. Santa Monica, CA: RAND corporation.

Thomas, J. L., Wilk, J. E., Riviere, L. A., McGurk, D., Castro, C. A., & Hoge, C. W. (2010). Prevalence of mental health problems and functional impairment among active component and national guard soldiers 3 and 12 months following combat in Iraq Archives of General Psychiatry, 67(6), 614-623. doi:10.1001/archgenpsychiatry.2010.54

Wagner, T. H., Harris, K. M., Federman, B., Dai, L., Luna, Y., & Humphreys, K. (2007). Prevalence of substance use disorders among veterans and comparable non-veterans from the national survey on drug use and health. Psychological Services, 4(3), 149-157. doi:10.1037/1541-1559.4.3.149

Wright, K. M., Cabrera, O. A., Bliese, P. D., Adler, A. B., Hoge, C. W., & Castro, C. (2009). Stigma and barriers to care in soldiers post combat. Psychological Services, 6(2), 108-116.

APPENDACIES

Appendix A

Proposed recruitment material for Facebook/online recruitment

I am interested in your opinion!!

I am conducting a survey assessing trust. Your opinion is requested through a brief, anonymous survey. Participation will take approximately 15 minutes. All answers will be kept confidential, and your participation is greatly appreciated. Simply click on the link below to participate in the study. If you decide after completing the survey that you no longer wish to participate, simply click the cancel option at the end of the survey and your responses will not be submitted.

Survey Link:

Thank you for your support!!

Appendix B

Participation Letter

IRB approval # (Generated by IRB)

Principal investigator(s)
Kristina M. Booth B.A.
E-mail-Krisboot@nova.edu

Institutional Review Board
Nova Southeastern University
Office of Grants and Contracts
(954) 262-5369/Toll Free: 866-499-0790
IRB@nsu.nova.edu

  This project involves research. The purpose of this study is to assess attitudes regarding trust. You are invited to participate in this study because you are 18 years of age or older and a military veteran. If you agree to be involved in this study you will be asked to complete an internet based multiple choice survey regarding your feelings about trust, it should take no longer than 15-20 minutes to complete. There are no follow up assessments for this study.

  There is minimal risk to you. This study is internet based; there will be no ability to identify you. If you are uncomfortable answering the questions, at the end of the survey you will have an opportunity to cancel your responses and withdraw from participation in the study. If you have any concerns about the risks or benefits of participating in this study, you can contact Kristina Booth, M.S., Barry Nierenberg, PhD or the university's human research oversight board (the Institutional Review Board or IRB) at the numbers indicated above. There are no direct benefits from participation in this study.

  All information gathered in this study will be kept confidential. During this study, you will not be asked for any identifying information (such as your name or date of birth) which may be traced back to you.

  You have the right to refuse to participate or to withdraw at any time, without penalty. You will be given an option at the end of this online survey, either to submit responses or cancel all responses. If you choose to cancel responses, your data will not be used in the current study. Your data will be retained for three years from the end of the study.

Voluntary Consent by Participant:
I have read the preceding Participation letter. By clicking below on the "CONTINUE" button, I am agreeing to answer the survey questions. If I have any questions in the future about the study Kristina Booth will answer them. A copy of the letter may be printed for my records.

Appendix C

Demographics Questionnaire

1. What is your age
    a. Fill in
2. Gender
    a. Male
    b. Female
    c. Other
        i. Fill in
3. What is your highest level of completed education
    a. Some high school
        i. If chosen ask
            1. How many years did you complete?
                a. Fill in
    b. GED
    c. High school diploma
    d. Some College
        i. If chosen ask
            1. How many years did you complete
                a. Fill in
    e. College degree
    f. Some Graduate school
    g. Graduate Degree
4. Are you a Military service member
    a. Yes
        i. Active Duty
            1. If active thanks for participant and visiting the survey site
        ii. Veteran
            1. If veteran moves on to next question

    b. No
        i. If no brings them to a screen thanking them for taking the time to visit the survey site
5. What war(s) are you a veteran of?
    a. Choose all that apply
        i. OEF
        ii. OIF
        iii. Vietnam
        iv. Korean War
        v. Gulf War
        vi. ETC
6. What branches of the military have you served in? (choose all that apply)
    a. Army
    b. Navy

       c. Air force
       d. Coast Guard
       e. National Guard
       f. Marines

7. What was your MOS?
       a. Fill In

8. What was your highest rank?
       a. Fill In

9. How old were you when you entered the military?
       a. Fill in

10. How did you enter the military?
       a. Following ROTC
       b. Enlisted
       c. Other
           i. Fill in

11. Have you been deployed?
       a. Yes
           i. If yes How many times
               1. Fill in
           ii. Average Length of Deployment
               1. Fill in
           iii. Longest Deployment
               1. Fill in
           iv. Average time between deployments
               1. Fill in
           v. Shortest length of time between deployments
               1. Fill in
       b. No

12. What is the longest time you have spent in one unit?
       a. Fill in

13. How many deployments did you have with this unit?
       a. Fill in

Appendix D

Combat Exposure Scale

1) Did you ever go on combat patrols or have other dangerous duty?

   (1) No (2) 1-3 times (3) 4-12 times (4) 13-50 times (5) 51+ times

2) Were you every under enemy fire?

   (1) Never (2) less than 1 month (3) 1-3 months (4) 4-6 months (5) 7 months

   or more

3) Were you ever surrounded by the enemy?

   (1) No (2) 1-2 times (3) 3-12 times (4) 13-25 times (5) 26 + times

4) What percentages of soldiers in the unit you spent the most time were killed

   (KIA) wounded or missing in action (MIA)?

   (1) None (2) 1-25% (3) 26-50% (4) 51-75% (5) 76% or more

5) How often did you fire rounds at the enemy?

   (1) Never (2) 1-2 times (3) 3-12 times (4) 13-50 times (5) 51 + times

6) How often did you see someone hit by incoming or outgoing rounds?

   (1) Never (2) 1-2 times (3) 3-12 times (4) 13-50 times (5) 51 + times

7) How often were you in danger of being injured or killed (i.e., being pinned down,

   overrun, ambushed, near miss, etc)?

   (1) Never (2) 1-2 times (3) 3-12 times (4) 13-50 times (5) 51 or more

Appendix E

Unit Cohesion Scale

1. I feel I belonged to the unit in which you spent the longest time.
    (2) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree

2. The members of the unit I spent the most time with were like family.
    (3) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree

3. I respected the officers in the unit I spent the longest time.
    (4) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree

4. I trusted the men in the unit I spent the longest time.
    (5) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree

5. The available role models and leaders in the unit you spent the longest time good.
    (6) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly agree

Appendix F

Modified Trust in Teams Scale

Scenario: Please rate the following statements where Joe from the above scenario is the teammate in question. Remember to rate the statements about Joe, a fictional member of the unit you spent the longest time in.

1 = Strongly disagree
2 = Disagree
3 = Somewhat disagree
4 = Neither agree nor disagree
5 = Somewhat agree
6 = Agree
7 = Strongly agree

1. My teammate watches my back. (B)
2. My teammate honor's their word. (I)
3. My teammate looks out for me. (B)
4. I have faith in the abilities of my teammate. (C)
5. My teammate works to protect me. (B)
6. I can depend on my teammate to be fair. (I)
7. My teammate keeps their promises. (I)
8. In times of uncertainty, my teammate sticks to the plan. (P)
9. Even in tough times, my teammate is supportive. (B)
10. My teammate tells the truth. (I)
11. I usually know how my teammate is going to react. (P)
12. My teammate is competent. (C)
13. My teammate has strong ethics. (I)
14. My teammate is highly skilled. (C)
15. My teammate knows what they are doing. (C)
16. I can guess what my teammate is likely to do. (P)
17. My team is motivated to protect me. (B)
18. I know what to expect from my team. (P)
19. My teammate has my best interests in mind. (B)
20. My teammate behaves consistently. (P)
21. I cannot predict what teammate is likely to do. (P – reversed item)
22. My teammate is qualified to do his/her job. (C)
23. My teammate is capable at his/her jobs. (C)
24. My teammate is an honourable person. (I)

B = Benevolence (i.e., to score, add all of the B items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)
C = Competence (i.e., to score, add all of the C items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)
I = Integrity (i.e., to score, add all of the I items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)

P = Predictability (i.e., to score, add all of the P items together and divide by 6, for a minimum and maximum of 1 and 7, respectively; note that 21 is a reversed item)

Appendix G

Original trust in teams scale

Using the rating scale provided below, indicate the extent to which you agree with the following statements with respect to your current section or team:

1 = Strongly disagree
2 = Disagree
3 = Somewhat disagree
4 = Neither agree nor disagree
5 = Somewhat agree
6 = Agree
7 = Strongly agree
1. My teammates watch my back. (B)
2. My teammates honour their word. (I)
3. My teammates look out for me. (B)
4. I have faith in the abilities of my teammates. (C)
5. My teammates work to protect me. (B)
6. I can depend on my teammates to be fair. (I)
7. My teammates keep their promises. (I)
8. In times of uncertainty, my team sticks to the plan. (P)
9. Even in tough times, my team members are supportive. (B)
10. My teammates tell the truth. (I)
11. I usually know how my teammates are going to react. (P)
12. My teammates are competent. (C)
13. My teammates have strong ethics. (I)
14. My teammates are highly skilled. (C)
15. My teammates know what they are doing. (C)
16. I can guess what my fellow team members are likely to do. (P)
17. My team is motivated to protect me. (B)
18. I know what to expect from my team. (P)
19. My teammates have my best interests in mind. (B)
20. My teammates behave consistently. (P)
21. I cannot predict what teammates are likely to do. (P – reversed item)
22. My teammates are qualified to do their job. (C)
23. My teammates are capable at their jobs. (C)
24. My teammates are honourable people. (I)

B = Benevolence (i.e., to score, add all of the B items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)
C = Competence (i.e., to score, add all of the C items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)
I = Integrity (i.e., to score, add all of the I items together and divide by 6, for a minimum and maximum of 1 and 7, respectively)
P = Predictability (i.e., to score, add all of the P items together and divide by 6, for a minimum and maximum of 1 and 7, respectively; note that 21 is a reversed item.

Appendix H

Scenario's A, B, and C

Scenario A. Imagine yourself working as part of the unit with which you spent the

longest time. Imagine that Joe is a member of the unit and close in age to you. You work

closely with Joe due to his Military Occupational Specialty (MOS), and depend on him to

do his job accurately. Unit leaders hold Joe in high regard and he has never received

disciplinary action. One night after a shift as you are walking back to your sleeping

quarters he confides in you regarding some stressful personal issues going on back home.

He tells you that he had an argument with his wife, and that it has been causing him to

lose sleep.

Scenario B. Imagine yourself working as part of the unit with which you spent the

longest time. Imagine that Joe is a member of the unit and close in age to you. You work

closely with Joe due to his Military Occupational Specialty (MOS), and depend on him to

do his job accurately. Unit leaders hold Joe in high regard and he has never received

disciplinary action. One night after a shift as you are falling asleep, you witness Joe

having a night terror. His sleep is clearly disrupted, you can hear moans of distress, and

see him tossing and turning. The following day after your shift, you find yourself walking

back to your sleeping quarters with Joe. You tell him that last night you noticed that he

seemed to be having a nightmare, and ask him if everything is okay. He confides in you

and tells you that recently he has been unable to sleep at night, has been having night

terrors, is jumpy, has experienced multiple panic attacks, and feels anxious frequently

during the day. He also tells you that he is beginning to lose interest in working out,

something he does frequently. Joe tells you that he thinks he is experiencing symptoms of

PTSD but does not want to tell anyone about it and asks that you let him handle it on his

own.

Scenario C. Imagine yourself working as part of the unit with which you spent the

longest time. Imagine that Joe, is a member of the unit, and close in age to you. You work

closely with Joe due to his Military Occupational Specialty (MOS), and depend on him to

do his job accurately. Unit leaders hold Joe in high regard, and he has never received

disciplinary action. One night after a shift, as you are falling asleep, you witness Joe

having a night terror. His sleep is visibly disrupted, you can hear moans of distress, and

see him tossing and turning. The following day, after your shift, you find yourself

walking back to your sleeping quarters with Joe. You tell him that last night you noticed

that he was having a nightmare, and ask him if everything is okay. He confides in you

and tells you that recently he has been unable to sleep at night, has been having night

terrors, is jumpy, has experienced multiple panic attacks, and feels anxious frequently

during the day. He also tells you that he is beginning to lose interest in working out,

something he does frequently. Joe tells you that he thinks he is experiencing symptoms of

PTSD and following your discussion decides to tell his commanding officer. He leaves

the unit to receive treatment. Following treatment Joe returns to the unit and is deemed fit

for duty. Following his return to the unit, he resumes his position continuing to work

closely with you.