12-15-2014

Mental Disorders, Mental Health Problems, and Treatment Among Army Recruiters and Recruiting Candidates, 2011-2013: An Examination of Current Rates in the Recruiting Population

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

Health Services Policy and Management

The Norman J. Arnold School of Public Health

University of South Carolina

2014

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Dedication

I would like to dedicate this dissertation to my wife and mother. Without your unfettered patience and continual caring words of encouragement, I would not have been able achieve my goals, or be half the man I am today. There are no words that can ever describe the level of my gratitude or love that I contain for you both. I hope to continue making you both proud in all that I do.

Acknowledgements

I would like to acknowledge those on my dissertation committee, including Dr. Janice Probst, LTC Ingrid Lim, Dr. Robert Moran, and Dr. Michael Byrd. Without your patience, guidance, and direct oversight, I would not have been able to complete this study and dissertation. Your time and consideration, as always, have been truly appreciated.

Abstract

Purpose: This study sought to determine the prevalence and severity of mental health disorders (MHDs) and/or mental health problems (MHPs) and types of treatments received among soldiers who have or will serve as recruiters.

Research Design and Methods: Data were collected between October 2011 to July 2013 from active duty soldiers (N=2,783) attending courses on Fort Jackson at the U.S. Army's Recruiting and Retention School (RRS). Students consisted of regular active duty soldiers and activated Guard/Reservist that were either recruiters or recruiting candidates. The medical records of participating recruiters and recruiting candidates were reviewed for the prevalence of MHDs and MHPs and types of mental health treatment. Treatment was categorized as having none, being prescribed only medication, receiving only counseling, or getting a combination of both. Socio-demographic variables were included in adjusted analysis.

Results: Over 39% of recruiters were diagnosed with at least one MHD, one MHP, or a combination of both. Approximately one in every four recruiters was diagnosed with only having at least one MHD (24.08%), with an additional 6.22% being diagnosed with at least one MHP, and 9.16% being diagnosed as having a combination of both. Over half of the recruiters received some form of mental health treatment (55.53%). The most common treatment was the combination of prescribed medications and counseling (25.75%), followed by only prescribed medications (16.78%), and only received counseling (13.00%). In adjusted analysis, middle-aged (30-39 years) and married

recruiters remained associated with the presence of a MHDs or MHPs. Similarly, in adjusted analysis, middle-aged (30-39 years), Hispanic, and "Other" recruiters were associated with the reception of treatment via medications or counseling.

Conclusions: The prevalence of MHDs and MHPs, were different and lower than those reported in the study by the Armed Forces Health Surveillance Center, but still significantly higher in comparison the findings identified in similar studies reflecting the prevalence of such disorders and problems among military and civilian personnel. Findings indicated that the types of mental health treatment rendered to the recruiters are not similar to other studies regarding military or civilian personnel, but rather indicate that recruiters diagnosed with MHDs and/or MHPs are receiving appropriate levels of medication, counseling, and/or combination of both when required and that adequate mental health resources are available and being utilized by those whom seek it. Findings also suggest that there are still mental health care barriers that need to be researched and addressed to ensure that all soldiers with mental health issues are accurately identified and receive adequate care.

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List of Abbreviations

AHLTA ..... Armed Forces Health Longitudinal Technology Application

CHCS .....Composite Health System

DSM ..... Diagnostic and Statistical Manual of Mental Disorders

ICD.....International Classification of Diseases

PTSD.....Post-traumatic Stress Disorder

RRS .....Recruiting and Retention Center

SIR .....Serious Incident Report

TBI ..... Traumatic Brain Injury

USAREC..... United States Army Recruiting Command

CHAPTER ONE

INTRODUCTION TO THE STUDY

Background

Recent studies have indicated that mental disorders are responsible for a substantial portion of the morbidity, disability, health care utilization, and attrition rates associated with U.S. military service members[1]. A report by the Armed Forces Health Surveillance Center indicated that over 900,000 active duty soldiers were diagnosed with at least one mental disorder between the years 2000 and 2011.[2] Furthermore, the report suggested that incident rates of mental diagnoses increased by approximately 65% during this period and that this growth was principally due to an increase in diagnoses of adjustment, depressive, anxiety, and post-traumatic stress disorders.

Similarly, a study by McKibben et al. (2013), reflecting the mental health service utilization of 508,088 active duty Army soldiers in 2008, reported 21% had used mental health services in the previous 12 months, 48% had used two or more services, and roughly 7% had treatment from a mental health provider and were prescribed medications.[3]

Accordingly, the overall health care burden associated with mental health in the military has also substantially increased within recent years, accounting for the hospitalization of more service members than any other medical diagnostic category.[4] Moreover, military mental disorders accounted for more ambulatory visits in 2011 than

[1] Hoge, C. W., Tobini, H. E., Messer, S. C., Bell, N., Amoroso, P., & Orman, D. T. (2005). The Occupational Burden of Mental Disorders in the U.S. Military: Psychiatric Hospitalizations, Involuntary Separations, and Disability. *The American Journal of Psychiatry , 162* (3), 585-591.
[2] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[3] McKibben, J. B., Fullerton, C. S., Gray, C. L., Kessler, R. C., Stein, M. B., & Ursano, R. J. (2013). Mental Health Service Utilization in the U.S. Army. *Psychiatric Services , 64* (4), 347-353.
[4] Otto, J. L., O'Donnell, F. L., Ford, S. A., & Ritschard, H. V. (2010). Selected Mental Health Disorders Among Active Component Members, U.S. Armed Forces, 2007-2010. *Medical Surveillance Monthy Report , 17* (11), 2-5.

any other category with the exception of musculoskeletal/connective tissue disorders and routine primary care (i.e. medical examinations, immunizations, etc.).[5,6,7,8]

Statement of the Problem

The role of military recruiter

Recruiters in the U.S. Army are responsible for acquiring the individuals who desire to serve as soldiers. They typically recruit between 58,000-87,000 applicants annually depending on the needs of the Army. This is more than the United States Air Force, Navy, and Marine Corp recruit annually.[9]

Recruiters are soldiers who either volunteer or are nominated by their military occupation specialty managers for being among the best of their group. This is considered a broadening assignment to expose them to other aspects of the military and will result in a promotion if they do well. Army recruiters work in most major metropolitan areas and in small rural towns across the Unites States. They are not only the face of the Army, but may be the only representative of the Armed Forces in their communities.[10]

Being a recruiter, unlike other occupational specialties, subjects them and their families to unique circumstances such as typically living in an area without a military

[5] Armed Forces Health Surveillance Center. (2012). Hospitalizations among members of the active. *Medical Surveillance Monthly Report , 19* (4), 10-16.
[6] Armed Forces Health Surveillance Center. (2012). Ambulatory Visits Among Members of the Active Component, U.S. Armed Forces, 2011. *Medical Surveillance Monthly Report , 19* (4), 19-22.
[7] Armed Forces Health Surveillance Center. (2012). Absolute and Relative Morbidity Burdens Attributable to Various Illnesses and Injuries, U.S. Armed Forces, 2011. *MSMR, Medical Surveillance Monthly Report , 19* (4), 5-9.
[8] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[9] Lim, I. (2014, September 15). Office of the Army Surgeon General G3/5/7, Health and Wellness. (C. K. Knight, Interviewer)
[10] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military.* Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

community and the typical military supports (geographical dispersion), high stress, and demanding work, and for some, an short transition from post combat operations to a civilian environment, all with the potential to interact and adversely impact the Soldier's behavioral/psychological health status. The results of this combination of potential stressors have not yet been examined.

Following a six week training period at Fort Jackson, South Carolina, soldiers officially become recruiters. They are assigned to a recruiting center or somewhere in the U.S. where they and their family will live and from which the soldier will recruit. Recruiters are one of the most geographically dispersed groups in the military as they are strategically placed throughout the country, almost every metropolitan area, and regional rural locations. In many instances, soldiers are not stationed near military installations and consequently may be the only soldier in that general vicinity. For some soldiers, this is an attractive prospect, but for many soldiers, this is often the first time they and/or their families will live away from the typical support systems found on or near military installations (i.e. community resources, certain medical care, or adequate mental health care resources to treat certain issues that are combat related). In other instances, recruiters may have to become geographical bachelors, or report to their duty stations without being able to take their families with them due to specific regulations or other unavoidable family factors (i.e. loss of a spouse's job, etc.). Communities where recruiters are stationed vary in their support of the military and its recruiting mission. Many recruiters experience positive support, appreciation, and reception from the communities in which they live. In other communities, some recruiters also experience

hostility, protest, discrimination, and alienation which can create its own stress and/or other undue hardships on the recruiter and/or their families.[11]

The first few months as recruiters tend to be the most challenging for many recruiters as they begin to live the reality of this unique job and meeting recruitment mission requirements. For many recruiters, this is the first time where they are required to work independently without passive supervision, and can increase the opportunities for misconduct. There is an intense learning curve that comes with the position and many recruiters often experience a loss of confidence or feel less competent.[12]

Many new recruiters tend to be transitioning from units that have served regular rotations to either Iraq and or Afghanistan. In turn, some of the recruiters that have recently redeployed are still experiencing readjustment issues or experiencing the after-effects of combat service. In turn, this quick post-combat transition, coupled with the multiple stressors of recruiting, and lack of normal support systems to which soldiers are accustomed can increase the potential for adverse mental health outcomes for the recruiters and/or their family. [13, 14]

Mental health indicators among military recruiters

The United States Army Recruiting Command (USAREC) located on Fort Knox observed significant increases in mental health issues among its recruiters through the use of the *Serious Incident Reporting System*. This Army system is utilized throughout the

[11] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[12] Joiner, 22.*
[13] Harrell, M. C., & Berglass, N. (2011). *Losing the Battle, the Challenge of Military Suicide.* Washington, D.C.: Center for New American Security.
[14] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

Army to keep commanders informed of significant activities that adversely impact their forces' abilities to accomplish the mission. In 2004, the *Serious Incident Reporting System* created definitions of certain events to include mental health issues and various misconduct behaviors such as DUIs, domestic violence, and a range of suicidal behaviors. USAREC uses the *Serious Incident Reporting System* to monitor the 4,000-12,000 soldiers (many of which are recruiters) that are assigned to its command.[15] A statement or *Serious Incident Report* (SIR) is generated for an event, typically adverse, involving a soldier and reflects his/her violations of civilian laws and Army rules, regulations or orders. SIR's also reflect the details of the event or situation, status of the recruiter, and outcome or current situation at the time of the report. Each SIR is created by the soldier's commander and tracked within a database at USAREC. This database is regularly reviewed for trends by the *Office of the Command Psychologist* (a group that monitors the general mental health of recruiters) in order to identify risk factors or problematic situations that can be addressed individually or within a specific arena such as personnel support, training, treatment, and education.[16]

The *Office of the Command Psychologist* is a special staff section responsible for providing consultation and recommendations on behavioral health and human performance issues and their implications for the command. They are also responsible for oversight and surveillance of all medical and behavioral health status of commands' soldiers and oversight of their care and management.

[15] Putman, L. T. (2014, February 21). Behavioral Health Specialist, HQ USAREC, Office of the Command Psychologist. (C. K. Knight, Interviewer) Fort Knox, Kentucky, Unites States of Amercica.
[16] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

According to the *Office of the Command Psychologist*, SIR rates have been particularly high for recruiters within recent years. For example, in 2013, the rate where soldiers were admitted for stress related incidents (per 10,000 soldiers) was 12.2, the suicidal ideation rate was 13.2, the suicide attempts rate was 4.1, and the rate of suicides was 1.0 per 10,000 soldiers.[17] Historical rates concerning suicide in comparison to the U.S. Army have declined slightly within recent years (2010-2012) with a suicide rate of 28.2 (per 100,000 soldiers) in the recruiting population in comparison to a suicide rate of 27.6 among the overall Army (per 100,000 soldiers). Despite these slight decreases, such behavioral issues have become a significant concern as USAREC's soldiers, composed mostly of recruiters, typically had low incidences of SIRs incidents and behavioral health problems among its ranks in the past.[18]

Rationale/Conceptual Underpinnings for the Study

The proposed study addresses the U.S. Army's need to understand the contributing factors to mental health issues affecting its recruiting force. There are multiple goals of this study. The first goal is to determine the best treatments and interventions to support and sustain the force. A second goal is to assist them in becoming more resilient. The third goal is to guide/shape policies that address the need for effective intervention strategies and/or follow-up strategies for recruiters identified at risk for mental health issues. A fourth goal is to shape assignment policies or regulations for those recruiters considered at risk. A fifth goal and final goal of this study is to

[17] Putman, L. T. (2014, February 21). Behavioral Health Specialist, HQ USAREC, Office of the Command Psychologist. (C. K. Knight, Interviewer) Fort Knox, Kentucky, Unites States of Amercica.
[18] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

determine the appropriate level of mental health support required for a geographically dispersed groups, particularly recruiters.[19]

Purpose of the Study

Given the previously discussed risk factors, the recent increase in mental health issues in the military as a whole, and in USAREC specifically, this study seeks to determine the prevalence and severity of mental health disorders (DSM diagnoses) and mental health problems (V-coded diagnoses representative of psychosocial or mental health issues) among the participating recruiting population and types of treatments they are receiving through the use of their electronic medical records or AHLTA. The findings from this study can be used to determine if the prevalence of mental health disorders, mental health problems, and types of treatments in the recruiting population are similar to other studies regarding military personnel.[20]

Research Questions

In alignment with my interest in studying the factors affecting Army recruiters' mental health, this study will answer the following research questions:

1. What is the prevalence (frequencies/percentages) of recruiters diagnosed with no mental health disorders or mental health problems, those with only mental health disorders (at least one or more), those with only mental health problems (at least one or more), those with both mental health disorders and problems, and how do these compare to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center?

[19] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

[20] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

2. What are the most prevalent mental health disorder categories and mental health problem categories (in terms of frequencies and percentages) among the recruiting population and how do they these compare to those identified in the study by the Armed Forces Health Surveillance Center?
3. What is the prevalence of mental health treatments (no treatment, medications only, counseling only, and both medications and counseling) among the recruiting population and how do these compare to the frequencies and percentages identified in the study by McKibben et al. (2013) which examined the utilization of mental health services by U.S. Army soldiers?

Hypothesis

1. The prevalence of mental health disorders and mental health problems among recruiters will be significantly less in comparison to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center due to stringent mental health screening processes required to become a recruiter.
2. The most prevalent mental health disorder categories and mental health categories (in terms of frequencies and percentages) among the recruiting population will be similar in comparison to those identified in the study by the Armed Forces Health Surveillance Center.
3. The prevalence of mental health treatments in the recruiting population is similar to those identified in the study by McKibben et al. (2013).

Summary

Chapter 1 has presented the introduction, statement of the problem, research questions, significance of the study, definition of terms, and limitations of the study. Chapter 2 contains the review of related literature and research related to the problem being investigated. The methodology and procedures used to gather data for the study are presented in Chapter 3. The results of analyses and findings to emerge from the study are contained in Chapter 4. Lastly, Chapter 5 contains a summary of the study and findings, conclusions devised from the findings, a discussion, and recommendations for further study.

CHAPTER TWO

REVIEW OF SELECTED/RELATED LITERATURE (AND RESEARCH)

Organization of Chapter Two

Chapter Two provides an extensive review of the literature and research related to behavioral health/psychological/psychiatric disorder-specific diagnoses and mental health problems within the military, particularly within Army recruiting populations. The chapter will be divided into sections that include (a) a historical overview of the problem (b) current rates related to the problem, (c) significant research published about the problem, and (d) a reflection of theories and models relevant to the problem.

Historical Overview of the Problem

The United States and its coalition partners launched Operation Enduring Freedom (OEF) in Afghanistan of October of 2001 and Operation Iraqi Freedom (OIF) in Iraq of March of 2003.[21,22] The war in Iraq concluded in December of 2011, but the fighting in Afghanistan still lingers on today. Together, these two operations have composed the largest sustained ground operations since Vietnam. The war in Afghanistan is currently the longest of any other war in U.S. history. Studies suggest that multiple and recurrent deployments to Iraq and Afghanistan in support of these campaigns over the last decade are responsible for a considerable portion of the morbidity, disability, health care utilization, and attrition rates associated with U.S. military service members.[23,24]

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[21]U.S. Army Center of Military History. (2003). *The U.S. Army in Afghanistan*. Retrieved February 24, 2014, from Operation Enduring Freedom: http://www.history.army.mil/brochures/Afghanistan/Operation%20Enduring%20Freedom.htm#intro

[22] Associated Press. (2011, December 17). *USA Today News*. Retrieved February 24, 2014, from Last U.S. Troops Leave Iraq, Ending War: http://usatoday30.usatoday.com/news/world/story/2011-12-17/iraq-us-troops/52032854/1?csp=ip

[23] Hoge, C. W., Tobini, H. E., Messer, S. C., Bell, N., Amoroso, P., & Orman, D. T. (2005). The Occupational Burden of Mental Disorders in the U.S. Military: Psychiatric Hospitalizations, Involuntary Separations, and Disability. *The American Journal of Psychiatry , 162* (3), 585-591.

[24] Prigerson, H. G., Maciejewski, P. K., & Rosenheck, R. A. (2002). Population Attributable Fractions of Psychiatric Disorders and Behavioral Outcomes Associated With Combat Exposure Among US Men. *American Journal of Public Health , 92*, 59-63.

Current Rates Related to the Problem

Morbidity, Health Care Utilization, and Attrition rates: According to a study by Hoge et al. (2006), combat deployments are associated with an increased utilization of mental health services and attrition from military service after deployment. Their analyses of post-deployment assessments from soldiers further suggested that reported mental health issues were significantly associated with combat experiences, mental health care referral and utilization, and attrition from military service. Other findings reported that 35% of combat veterans evaluated in the study utilized mental health services in the year following their redeployment, 12% were diagnosed with a mental health disorder or problem, and more than 50% of those referred for mental health services required follow-up care.[25] Similarly, another study by Hoge et al. (2002) suggested that at least 6% of all active duty U.S. military service members receive treatment for a mental health disorder each year.[26,27]

Additionally, according to a report by the Congressional Research Services (2013), hospitalizations for mental health disorders have increased substantially within the last decade. Hospitalizations between 2006 and 2009 almost doubled from 10,262 to 15,328 due to drastic increases in hospitalizations for PTSD, depression, and substance abuse. Findings from the study further suggested that in terms of lost duty time, the

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[25] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan. *The Journal of the American Medical Association , 295* (9), 1023-1032.
[26] Hoge, C. W., Lesikar, S. E., Guevara, R., Lange, J., Brundage, J. F., Engel, C. C., et al. (2002). Mental Disorders Among U.S. Military Personnel in the 1990s: Association with High Levels of Health Care Utilization and Early Military Attrition. *The American Journal of Psychiatry , 159* (9), 1576-1583.
[27] 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.

department of the Army has been the service branch most affected by hospitalizations of active duty soldiers for mental disorders.[28]

Costs: According to the report by the Congressional Research Services (2013), mental health care costs at military health care institutions have increased exponentially within the last decade for active duty soldiers and activated reserve and guard members, nearly doubling between 2007 and 2012 from $468 million to $994 million (Figure 2.1). Approximately 63% of these expenditures were spent on outpatient treatments for mental disorders, 31% for inpatient treatments, and 7% for pharmacy costs. Mental health treatments for active duty soldiers accounted for roughly 89% of military mental health care costs between 2007 and 2012, with over $567 million being spent on outpatient treatments for mental disorders. The military spent approximately $461 million on mental health care treatments for activated Guard/Reserve members during the same time frame.[29]

[28] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[29] Blakeley, 13.*

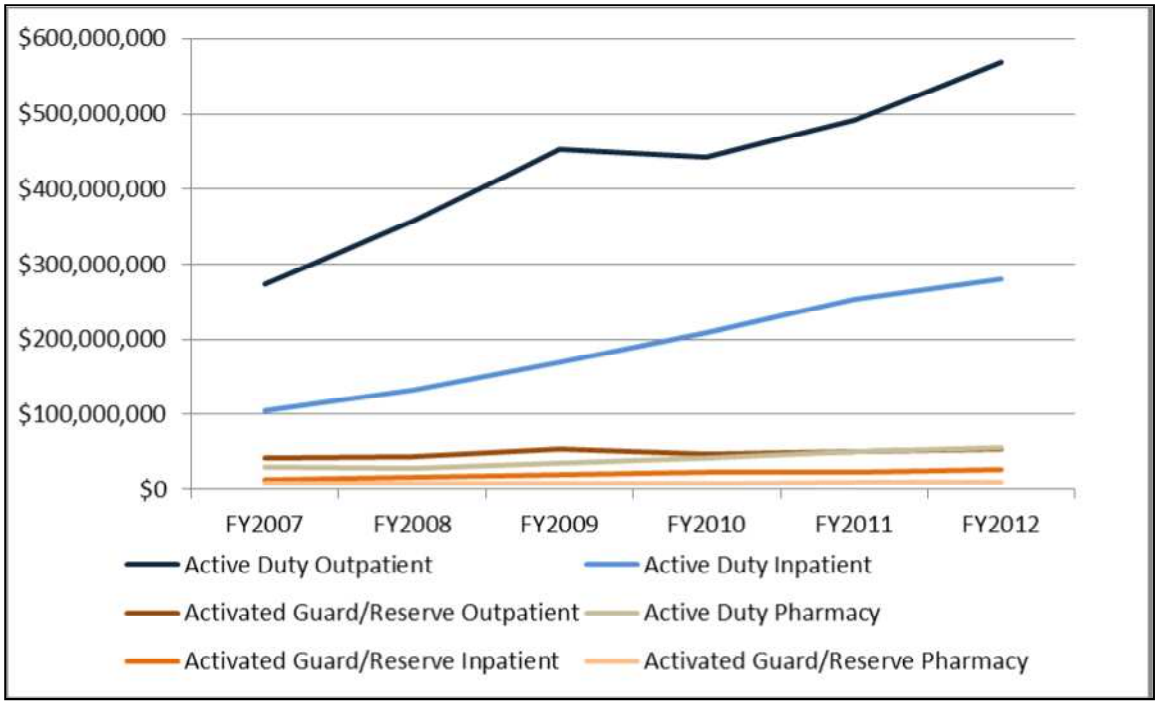

Figure 2.1: Costs of Military Mental Disorder Treatment for Active Duty and Activated Guard/Reserve (FY2007-FY2012, in millions of $)

Psychological Health of Iraq and Afghanistan Veterans: As noted previously, the rate of mental health diagnoses among active duty service members who have served in combat has increased substantially over the last decade (2001-2011). The report by the Congressional Research Services (2013) indicated that that over 936,283 active duty soldiers or former services members who served in combat have been diagnosed with at least one mental disorder during this period of time (2001-2011) and that approximately 49% of these individuals were diagnosed with more than one mental disorder (Figure 2.2).[30, 31]

[30]Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[31] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

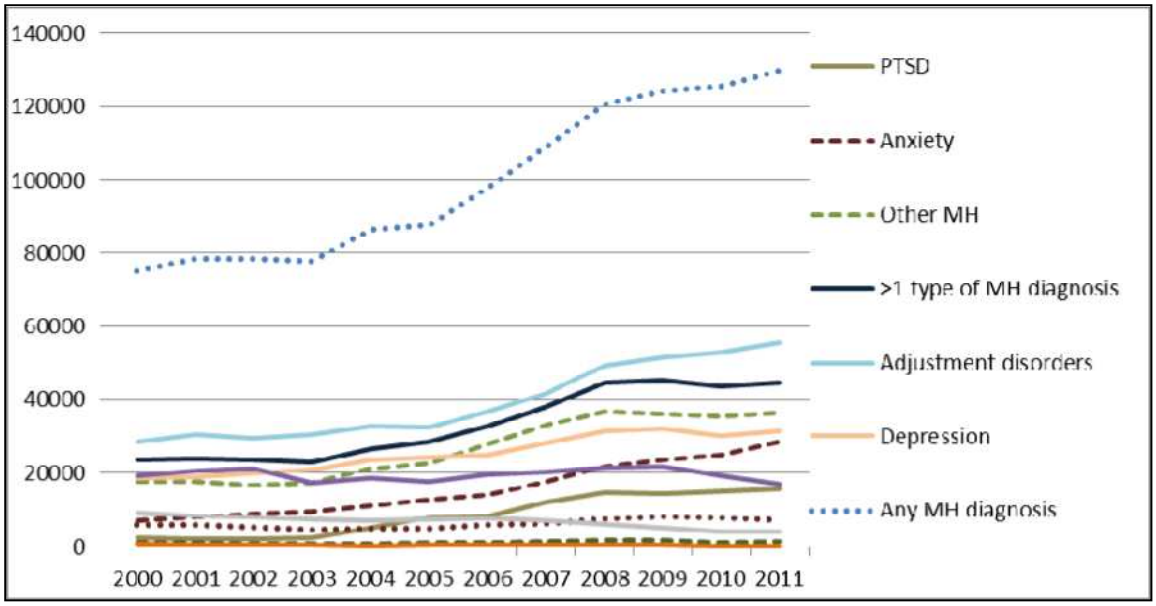

Figure 2.2: Number of Mental Disorder Diagnoses, 2000-2011

Additionally, they suggested that diagnoses of adjustment disorders (26%), depression (17%), and anxiety disorders (10%) composed the majority of the diagnoses during this time frame (Figure 2.3). Alcohol abuse and dependence disorders (13%), substance abuse and dependence disorders (4%) and PTSD (6%) also represented a substantial portion of the other mental health disorder diagnoses during this period of time (Figure 2.3).[32, 33]

[32] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[33] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

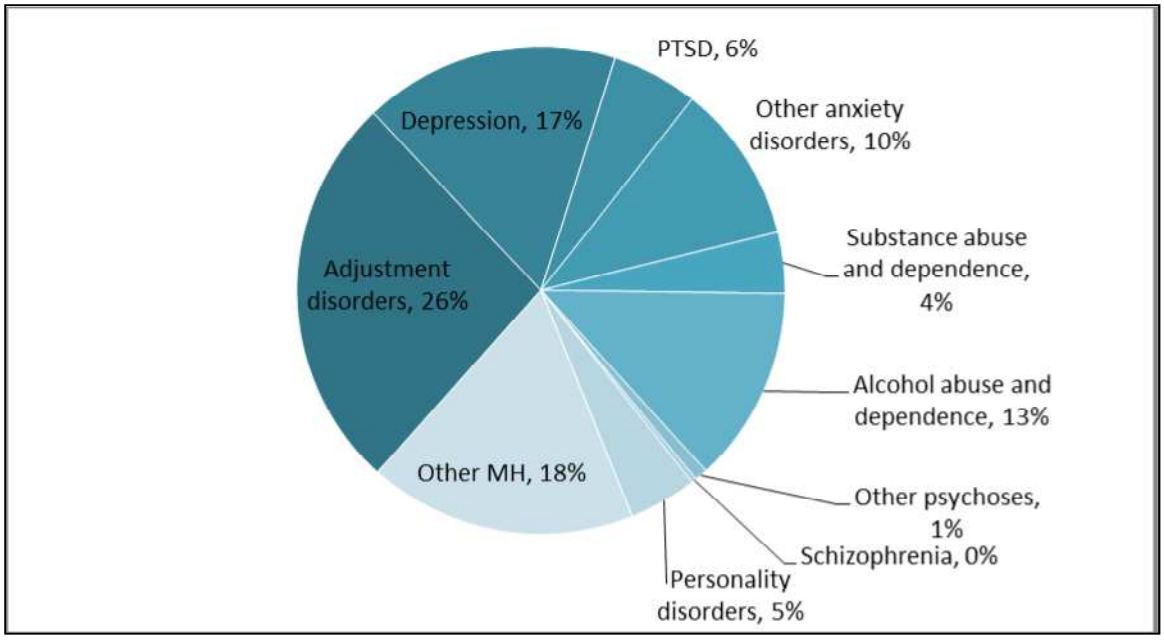

Figure 2.3: Diagnoses of Mental Disorders in the Active Duty Forces, 2000-2011

The report by the Congressional Research Services (2013) documented the department of the Army as having the highest incident rates for PTSD, major depression, alcohol dependence, and substance abuse among all the Armed Service Branches (Army , Marines, Navy, and Air Force) between 2007 and 2010 (Figure 2.4).[34], [35]

[34] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[35] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

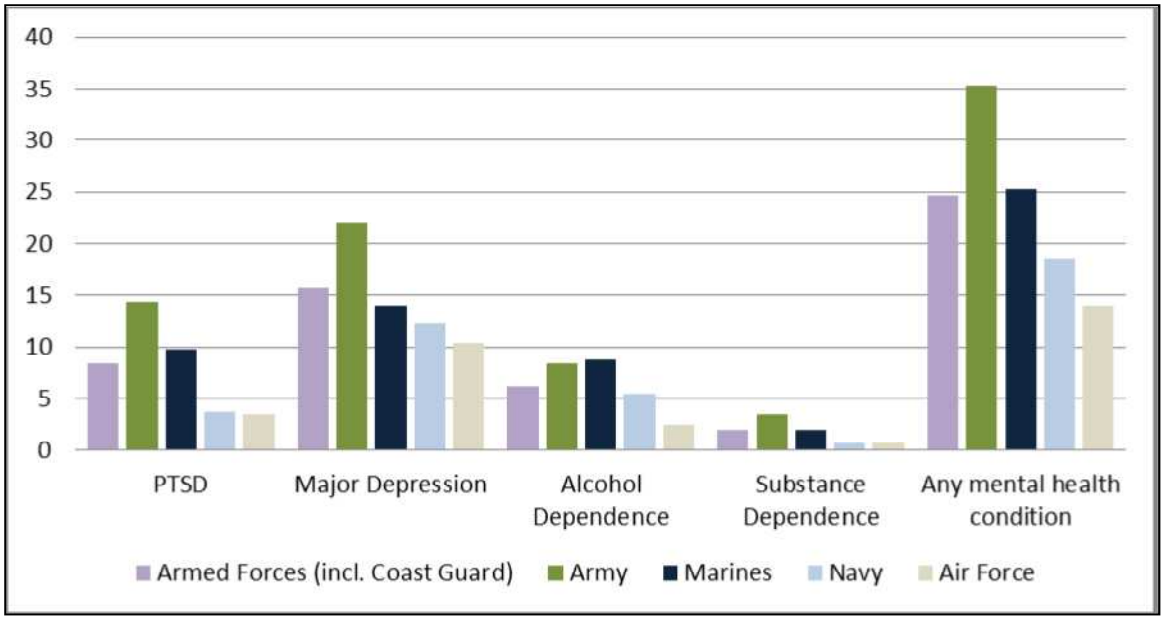

Figure 2.4: Incidence Rate of Selected Mental Health Conditions by Service, 2010

Overview of Common Combat-related Mental Health Disorders: Iraq and Afghanistan combat veterans are more prone to certain mental disorders such as Post Traumatic Stress Disorder (PTSD), Traumatic Brain Injuries (TBI's), Depression, Substance related disorders, and Adjustment disorders, with each having its own unique symptoms, treatment modalities, and long-term effects.[36,37,38,39]

According a study by Hoge et al. (2004), approximately 17% of soldiers and Marines who returned from combat in Iraq screened positive for PTSD, generalized

[36] Sundararaman, R., Panangala, S. V., & Lister, S. A. (2008). *Suicide Prevention Among Veterans.* Washington, D.C.: Congressional Research Service.
[37] 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.
[38] Gadermann, A. M., Engel, C. C., Naifeh, J. A., Nock, M. K., Petukhova, M., Santiago, P. N., et al. (2012). Prevalence of DSM-IV Major Depression Among U.S. Military Personnel: Meta-Analysis and Simulation. *Military Medicine , 177*, 47-59.
[39] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development*. Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx

anxiety, or depression.[40] Similarly, a study by Sarreen et al. (2007) of active duty military personnel indicated that combat deployments are associated with increased psychological distress and decreased health-related quality of life.[41] Other studies indicated that soldiers who have been exposed to combat during deployment also have increased substance abuse and functional impairment in social and employment settings.[42,43]

Post-Traumatic Stress Disorder (PTSD) is a common mental disorder among combat veterans. PTSD is a form of anxiety with multiple symptoms that vary in severity and can occur following traumatic experiences such as combat in which grave physical injury occurred, was observed, or the individual's life was endangered. People afflicted with PTSD often relive traumatic occurrence(s) through nightmares or flashbacks, avoid stimuli associated with the trauma(s) (i.e. thoughts, feelings, and conversations), experience a loss of interest in activities, and/or experience symptoms of hyper-arousal (irritability, anger, hyper-vigilance, insomnia, or difficulty with concentration).[44, 45]

Traumatic Brain Injury (TBI), the signature injury of the wars in Iraq and Afghanistan, occurs when an abrupt physical trauma damages the brain and can occur

[40] 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.
[41] Sareen, J., Cox, B. J., Afifi, T. O., Stein, M. B., Belik, S.-L., Meadows, G., et al. (2007). Combat and Peacekeeping Operations in Relation to Prevalence of Mental Disorders and Perceived Need for Mental Health Care. *Archives of General Psychiatry , 64* (7), 843-852.
[42] Sareen, 843.*
[43] 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.
[44] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development.* Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx
[45] Ramchand, R., Acosta, J., Burns, R. M., Jaycox, L. H., & Pernin, C. G. (2011). *The War Within: Suicide Prevention in the U.S. Military.* Center for Military Health Policy Research. Santa Monica: RAND Corporation.

despite the absence of any visible sign of injuries. TBI symptoms can be mild, moderate, or severe depending on the extent of the injury and may result in decreased levels of consciousness, amnesia of the event or events preceding the injury, a skull fracture or penetration, neurological or neuropsychological abnormalities (i.e. disorientation, agitation, or confusion), or an intracranial lesion. TBIs typically occur due to the enemy's use of improvised explosive devices (IEDs).[46, 47]

The most prevalent mental health disorder among active duty soldiers or military service members is depression or major depressive disorder, which is characterized by episodes of low mood, low self-esteem, and/or a loss of interest or satisfaction in normally pleasurable activities.[48, 49]

Substance use related disorders are another group of mental disorders common among veterans. There are a variety of disorders related to alcohol and illicit substance use and include abuse, dependence, intoxication, and withdrawal. Substance use disorders reflecting dependence on drugs, alcohol, or other illicit substances require at least three of seven diagnostic symptoms that would indicate tolerance or withdrawal. In contrast, substance use that does not meet the DSM's criteria for dependence, but leads to clinically significant distress or impairment, is called abuse. An individual can have

[46] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[47] Ramchand, R., Acosta, J., Burns, R. M., Jaycox, L. H., & Pernin, C. G. (2011). *The War Within: Suicide Prevention in the U.S. Military.* Center for Military Health Policy Research. Santa Monica: RAND Corporation.
[48] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development.* Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx
[49] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

multiple diagnoses of abuse or dependence as each criteria is specific to the substance (i.e. one diagnosis for marijuana dependence and another for cocaine abuse).[50, 51]

Another common mental health disorder prevalent among veterans is that of an adjustment disorder, or the psychological distress to one or more stressors or life events (i.e. a divorce or a period of unemployment). These stressors can occur once, multiple times, or be acute or chronic. A diagnosis of an adjustment disorder does not require specific symptoms, but rather requires clinically significant distress (i.e. anxiety or depressed mood) or impairment in functioning (i.e. social or occupational problems). Soldiers are often diagnosed with adjustment disorder when their symptoms do not meet the criteria for another mental disorder.[52, 53]

Mild symptoms of PTSD and TBI can go undiagnosed or misdiagnosed because of the many non-specificity of the symptoms or these symptoms are common to other disorders such as depression or anxiety. These disorders can co-occur with depression and anxiety disorders with soldiers that have multiple mental health diagnoses such as TBI, PTSD, depression, and a substance use disorder or dependence.[54, 55]

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[50] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development.* Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx

[51] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

[52] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development.* Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx

[53] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

[54] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development.* Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx

[55] Ramchand, R., Acosta, J., Burns, R. M., Jaycox, L. H., & Pernin, C. G. (2011). *The War Within: Suicide Prevention in the U.S. Military.* Center for Military Health Policy Research. Santa Monica: RAND Corporation.

Screening Programs and Mental Health Care Treatment: All soldiers, including recruiters, are subjected to several mental health screening evaluations from providers throughout their careers. In addition, there are multiple types of mental health care treatment and coverage options that are available to soldiers. The following section will reflect these mental health screening processes that all soldiers undergo, in addition to the describing some of the mental health treatment that are available and/or rendered to soldiers. In addition, this section will also briefly reflect the referral process for mental health care, coverage for such treatments, types of providers that render such care, treatment locations, mental health guidelines used in the Army, and barriers to such health care.

Screening Programs

Mental Health Entrance/Applicant Screening: Prior to being accepted into the military, service members are screened for existing mental health issues (i.e. learning, behavioral, and psychological conditions) that would make them ineligible for military service (Figure 2.5). Currently, there is no required battery of psychological tests to screen potential recruits prior to entrance in the military, there are only screening questions and standard screening protocols. There are several forms of screening tools that are being tested, but no data indicating the validity or reliability in predicting psychological fitness of an applicant and if this impacts one's ability to successfully complete a the first term of service.[56]

[56] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

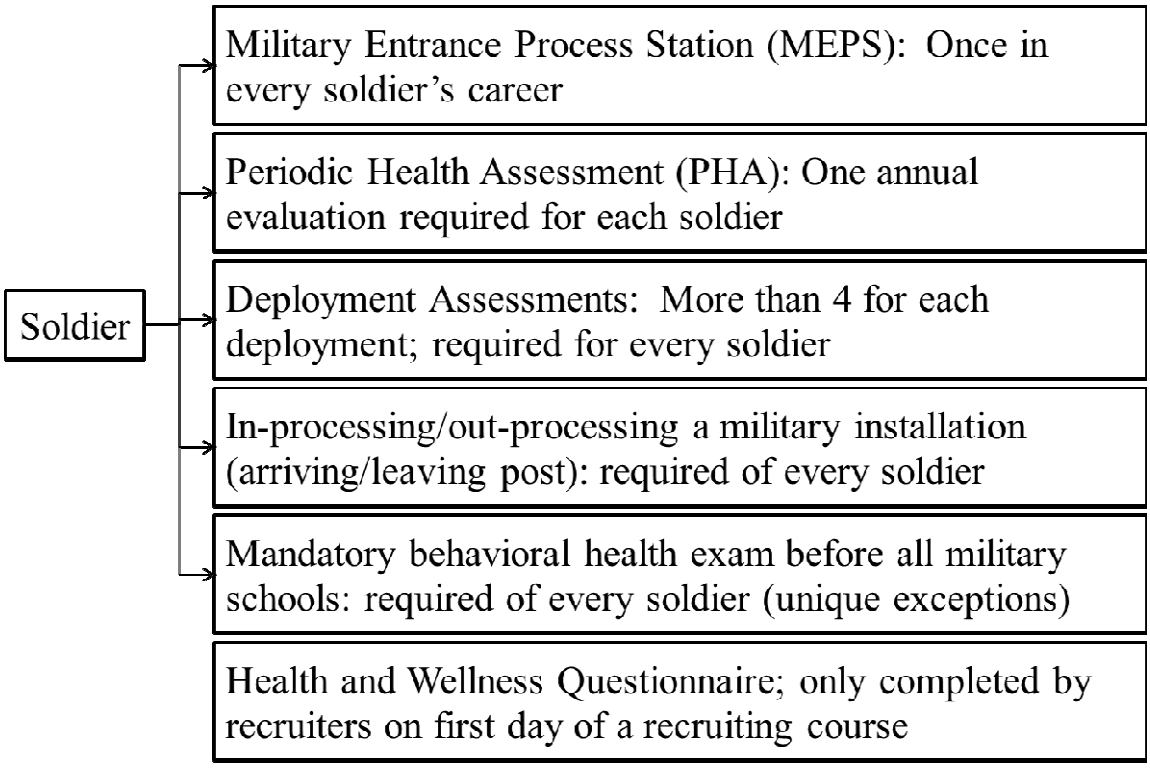

Figure 2.5: Mental Health Evaluations Required of All Soldiers

Existing standardized screening methods consist of the Tailored Adaptive Performance Assessment (TAPA), a non-cognitive assessment measure to determine can do and will do (measure of motivation and ability). All prospective soldiers are required to complete the ASVAB when processing at one of the multiple Military Entrance Processing (MEPs) stations within the U.S. The Army requires ASAVAB scores 50 and above to be considered fully qualified. Those in the ranges of 35-49 must obtain a passing score on the TAPAS to process and become an applicant. Applicants are required to complete three forms during the MEPS examinations that are intended to identify any medical (including psychological and social) issues that would be of concern and adversely impact a person's ability to serve. Problems or issues that would be incompatible with military service include history of depression, anxiety, convictions for illicit substance use or possession depending on the type of conviction. The Chief

Medical Officers only determine if an applicant is qualified or not qualified. It is up to the Service Surgeon to determine if further evaluation is warranted and pending the results of such evaluation if a waiver is appropriate.[57]

Each military branch also has the authority to waive the standard MEPs regulations on a case by case basis. According to data from the MEP Command's database in 2009, over 1,100 individuals (out of 296,000) with past mental health conditions were granted entrance waivers into the military.[58]

Periodic Health Assessment or Annual Physical: In addition to an initial entrance exam, all soldiers in the U.S. Army are required to receive an annual physical examination known as a periodic health assessment (PHA), which is focused on preventative care. These assessments are also used to identify changes in a soldier's health (including their mental health) to ensure that he/she is fit for duty (or referred for care to be able to meet medical standards of fitness) (Figure 2.5). PHA's often satisfy two army regulations by fulfilling the requirement for an annual physical examination and serving as a post-deployment assessment, thereby negating the need for two separate evaluations.[59]

Pre-Deployment and Post-Deployment Mental Health Assessments and Reassessments: Soldiers who are deployed to a combat zone are required to meet with a mental health provider and complete a face-to-face mental health assessment on more

[57] Lim, I. (2014, September 15). Office of the Army Surgeon General G3/5/7, Health and Wellness. (C. K. Knight, Interviewer).
[58] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[59] Blakeley, 13.*

than four separate times during each deployment cycle (Figure 2.5). These assessments occur within 120 days before soldiers' deployments, within 30 days prior to their redeployment, upon redeployment (arrival back home; PDHA), and 90 after the arrival and up to 180 days (PDHRA) after the soldier has returned from deployment.[60]

Mental Health Care Treatment: Soldiers seeking mental health care or those identified via the screening mechanisms as needing care can directly self-refer themselves or be referred by a general medical provider (i.e. physician's assistant or primary care physician), mental health professional (i.e. counselor, social worker, psychologist, psychiatrist, etc.), or other professional (i.e. a chaplain). Credentialed providers can render mental health care treatments to soldiers through the form of counseling or therapy and/or through the prescriptions of medications for depression, anxiety, sleep or other related mental health disorders and problems.[61]

A study by McKibben et al. (2013) examining the mental health care utilization of 10,400 Army soldiers (representing 508,088 soldiers) found that 21% of Army soldiers used at least one mental health service in the preceding 12 months. They reported that 15% of these soldiers received counseling or therapy from a mental health professional for their mental health service, while 10% received counseling or therapy from a general medical doctor. The authors also reported that the rate of receiving services from a mental health professional was approximately 1.5 times higher in the U.S. Army when compared with the U.S. general population. In addition, they suggested that

[60] Lim, I. (2014, September 15). Office of the Army Surgeon General G3/5/7, Health and Wellness. (C. K. Knight, Interviewer).
[61] McKibben, J. B., Fullerton, C. S., Gray, C. L., Kessler, R. C., Stein, M. B., & Ursano, R. J. (2013). Mental Health Service Utilization in the U.S. Army. *Psychiatric Services , 64* (4), 347-353.

approximately 11% of soldiers were prescribed medications alone or in combination with counseling services from a mental health professional or a general medical doctor.[62]

Treatment Coverage: Regular active duty service members or those who are activated for duty are covered by the Military Health System's TRICARE Prime health insurance program. Under this plan, soldiers and their family members receive health care (medical and mental) at no cost, free of copayments, deductibles, and premiums. Soldiers and family members covered under this plan generally receive most of their health care from military medical treatment facilities. They can also be referred to private providers for specialty care or can be referred to civilian providers if there are inadequate providers available on a military installation or wait times exceed established access to care standards. Prior authorization is not required for services received at military treatment facilities (MTFs), but is required for all non-emergency outpatient and inpatient mental health care services. Prior authorization is not required for any emergencies, but is required for admission into a facility beyond the initial emergency. *Tele-medicine*, (including *tele-mental health care*), is available to all TRICARE beneficiaries living in close proximity to MTFs, thereby allowing secure mental health care with other health care providers from other MTFs.[63]

Mental Health Providers: Regular active duty service members or those activated for duty (Guard/Reservists) can receive mental health care from uniformed clinicians in the

[62] McKibben, J. B., Fullerton, C. S., Gray, C. L., Kessler, R. C., Stein, M. B., & Ursano, R. J. (2013). Mental Health Service Utilization in the U.S. Army. *Psychiatric Services , 64* (4), 347-353.
[63] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.

military, in addition to federal civilian or contractor mental health providers. Mental health providers include psychiatrists, psychologists, social workers, licensed professional counselors, and psychiatric nurse practitioners. Active duty soldiers may be referred to private providers not associated with the military health care system, when a specialty or service is not available within the network or is a critical need is not available with the established standard or care.[64]

Clinical Practice Guidelines: Mental health care is typically conducted in accordance with the clinical practice guidelines outlined by the *DOD/VA Evidence-Based Practice Guideline Work Group* (EBPWG), which include guidelines for all DSM disorders, including PTSD, TBI, depression, and substance use disorders. These particular guidelines are based on the use of clinical and epidemiological evidence to improve the health of the population utilizing the Military Health Systems (DoD) or the Veterans Health Administration (VHA).[65]

Barriers to Care: Despite the reported increases in morbidity, disability, mental health care utilization, and attrition rates associated with U.S. military service members, studies suggest that there are still many barriers to care. According to a report by Thomas et al. (2010), individuals with mental conditions are often unidentified and/or undertreated due to a lack of motivation, apprehension, or mistrust on the part of the individual and may reduce their efforts to initiate and follow through recommended medical and mental health care. The researchers indicated that many primary care physicians are often

[64] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[65] Blakeley, 11.*

uncomfortable with treating serious mental illnesses as they lack the knowledge or expertise to render such care to their patient and are not always aware of the mental health facilities and/or services available in their communities or aware of the procedures to refer their patients to such providers. The researchers postulated that fragmentation and separation between the medical and mental health care systems tend to also result in fragmented and uncoordinated care.[66]

Soldiers with mental health issues may also not want to seek care from military treatment facilities (MTFs) on post or at the VA medical centers as they are concerned with the personal, legal, or social stigmas associated with receiving such services. A study by Hoge et al. (2004) indicated that over 60% of soldiers who screened positive for PTSD, generalized anxiety, or depression on post-deployment health evaluations (PDHA-Post deployment health assessment) did not seek treatment, signifying that there were soldiers who were not receiving the required mental health care they needed due stigma.[67]

If a soldier opted to seek treatment at a civilian treatment without a referral to avoid such stigmas, the care that they receive may be influenced by their ability to pay, clinician experience or expertise to treat combat or military related trauma, and type of treatment rendered. If a referral was available, care may be influenced by insurance limitations such as cost of care and if a co-pay may be required if reimbursement is below the cost charged for treatment, whether diagnoses are covered, the type of treatments available, and the number of treatments that will be covered.[68] Other limitations include

[66] Druss, B. G., & Walker, E. R. (2011). *Mental Disorders and Medical Comorbidity.* Robert Wood Johnson Foundation. Princeton,: The Synthesis Project.
[67] 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.
[68] Iglehart, J. K. (2004). The Mental Health Maze and the Call for Transformation. *The New England Journal of Medicine , 350* (5), 507-514.

the military's inability to meet the demand for behavioral health care despite increasing the number of mental health providers to support the growth in demand for mental health care following the Army's "anti-stigma" campaign. Limitations also include increased waiting times to obtain care, a lack of mental health care services in remote settings when soldiers are deployed, and limited available care for de-activated Guard/Reservists. An additional limitation includes a lack of experience or expertise among civilian and newly hired federal or contracted mental health providers regarding military related trauma situations which often frustrates many soldiers as the providers do not understand the perspective of the soldiers when discussing personal situations.[69,70]

Recruiting Risk factors (revisited): The rapid growth in mental disorders among military personnel within the last decade is concerning, particularly for those in the recruiting command who are subjected to other risk factors that other soldiers are not no commonly found in the typical Army operating environment. As noted previously, recruiting is historically an intricate and challenging occupation supposedly reserved for only the best soldiers in the Army. For instance, some recruiters may experience overt hostility individually or as a member of the military institution, protest, discrimination, and alienation from the community in which they are located which can become a significant challenge for individuals who must work in such environments. Stress is likely to accumulate during the first few months of recruiting duty as soldiers attempt to meet the complex and mundane tasks required of recruiters, contribute to meeting

[69] Blakeley, K., & Jansen, D. J. (2013). *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress.* Washington, D.C.: Congressional Research Service.
[70] Druss, B. G., & Walker, E. R. (2011). *Mental Disorders and Medical Comorbidity.* Robert Wood Johnson Foundation. Princeton,: The Synthesis Project.

recruiting goals, and adjust to the new and different operating environment. Recruiting duty can be difficult to adjust to, particularly for those assigned soon after a recent combat tour and/or those who may be experiencing readjustment issues. Recruiters are often assigned to locations far away from military installations and communities vary in their ability to provide adequate medical and mental health care. For soldiers who experience a quick post-combat transition, multiple stressors of recruiting duty, and lack military support systems can increase the likelihood for adverse outcomes for the recruiters and/or their family. These adverse events may involve mental health disorders, civilian and military criminal offenses involving substance use/abuse, domestic violence, or other externalizing behaviors that involve self-harm.[71,72]

Significant Research Published About the Problem

Perhaps one of the most significant and extensive studies publically available concerning mental disorders and mental health problems in the military was conducted by the Armed Forces Health Surveillance Center (AFHSC) in 2011 and reflected the medical records of 1,793,506 service members. Due to its intricate nature, sample size, and specific focus on mental disorders and problems in the military, this project is considerably relevant to this particular study. Researchers from the AFHSC conducted a longitudinal study that utilized the numbers, natures, and rates of incident mental disorder-specific diagnoses (DSM: 290-319) and mental health problems (documented with mental health-related V-codes) among active component U.S. service members over a period of 12 years (January 1, 2000 to December 31, 2011). This included all Armed

[71] Harrell, M. C., & Berglass, N. (2011). *Losing the Battle, the Challenge of Military Suicide.* Washington, D.C.: Center for New American Security.
[72] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military.* Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

Forces personnel who were actively serving during this period of time or those who were activated during this period (i.e. Guard/Reservists). Data used for the study was collected from the records maintained by the Defense Medical Surveillance System which documents ambulatory encounters and hospitalizations of active duty personnel in military treatment and non-military treatment facilities that were reimbursed by the Military Health System. Medical encounters were screened for mental disorder-specific diagnoses and mental health problems in the first and second diagnostic positions. Mental disorders were categorized as adjustment reaction, alcohol abuse, substance abuse, anxiety disorder, post-traumatic stress disorder (PTSD), depressive disorders, personality disorders, schizophrenia, "other psychoses", and "other mental health disorders" (Table 2.1).[73]

[73] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

Table 2.1: Mental Health Categories and Diagnostic Codes

Diagnostic Category for DSM Mental Disorders	**DSM Code**
Adjustment disorders	309.0x-309.9x (excluding 309.81)
Alcohol abuse/dependence disorders	303.xx, 305.0x
Substance abuse/dependence disorders	304.xx, 305.2x-305.9x
Anxiety disorders	300.00-300.09, 300.20-300.29,300.3
Post-traumatic stress disorder	309.81
Depressive disorders	296.20-296.35, 296.50-296.55, 296.9, 300.4, 311
Personality disorders	301.0, 301.10, 301.11, 301.12, 301.13, 301.20, 301.21, 301.22, 301.3, 301.4, 301.50, 301.51, 301.59, 301.6, 301.7, 301.81, 301.82, 301.83, 301.84, 301.89, 301.9
Schizophrenia	295.xx
Other psychoses	293.81, 293.82, 297.0x-297.3x, 297.8, 297.9, 298.0, 298.1, 298.2, 298.3, 298.4, 298.8, 298.9
Other mental health disorder	Any other code between 290-319 (excluding 305.1, 299.xx, 315.xx, 317.xx-319.xx)
Diagnostic Category for V-Coded Mental Health Problem	**V-Code**
Partner relationship problems	V61.0x, V61.1, V61.10 (excluding V61.11, V61.12)
Family circumstance problems	V61.2, V61.23, V61.24, V61.25, V61.29, V61.8, V61.9
Maltreatment related	V61.11, V61.12, V61.21, V61.22, V62.83, 995.80-995.85
Life circumstance problems	V62.xx (excluding V62.6, V62.83)
Mental, behavioral problems, substance abuse counseling	V40.xx (excluding V40.0, V40.1), V65.42

Similarly, V-coded diagnoses reflecting mental health problems were categorized into five groups including partner relationship problems, family circumstance problems, maltreatment related, life circumstance problems, and mental, behavioral problems or substance abuse counseling (Table 2.1). An incident diagnosis for a mental disorder or a mental health problem was defined by a hospitalization with an indicator diagnosis in the first or second diagnostic positions, two outpatient visits within 180 days documented

with indicator diagnoses (from the same mental disorder or mental health problem-specific category) in the first or second diagnostic positions, or a single outpatient visit in a psychiatric or mental health care specialty facility with an indicator diagnosis in the first or second diagnostic positions.[74]

Service members that were diagnosed with one or more mental disorders prior to the observation period were not considered at risk of incident diagnoses of the same conditions. Individuals who were diagnosed with more than one mental disorder during the observation period were considered incident cases in each category if they satisfied the criteria for a particular case. Service members could only be incident cases once in a specific mental health disorder specific category. For example, a person could only be diagnosed with one depression diagnosis. Those with no incident mental disorder-specific diagnoses were also eligible for inclusion during the observation period as cases of incident mental health problems. Thus, a person might not be diagnosed with a mental health disorder (i.e. depression), but could still be diagnosed with a mental health problem (i.e. partner relational problem).[75]

The study's results indicated that 936,283 service members were diagnosed with at least one mental disorder and approximately half (459,430) of these were diagnosed as having a mental disorder in more than one category. According to the researchers, the rates of diagnoses for at least one mental disorder increased by approximately 65% over the 12 year observation period. The researchers further reported that 85% of all mental disorder diagnoses were attributable to adjustment disorders (n=471,833; 26.3%), "other mental disorders" (n=318,827; 17.8%), depressive disorders (n=303,880; 16.9%), alcohol

[74] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[75] Armed Forces Health Surveillance Center, 11.*

abuse and dependence related disorders (n=232,625; 13.0%), and anxiety disorders (n=187,918; 10.5%). They reported that diagnoses attributable to PTSD (n=102,549; 5.7%), substance abuse and dependence related disorders (n=73,623; 4.1%), and personality disorders (n=81,223; 4.5%) were substantially less in comparison. The authors further documented that rates for diagnoses of PTSD, anxiety disorders, depressive disorders, adjustment disorders, and other mental disorders increased throughout the observation period, but grew more significantly after 2003. In contrast, they found that rates of diagnoses of personality disorders, schizophrenia, other psychoses, and alcohol and substance related disorders were reasonably stable or dwindled during the same period of time.[76]

The authors reported that the rates of mental disorder diagnoses were higher among females, with rates of adjustment and personality disorders being more than twice as high among women. Rates of anxiety and depressive disorders were between 1.4 and 1.9 times higher among women. Incident rates of diagnoses also decreased with age, with rates of adjustment, PTSD, personality, "other" mental disorders, schizophrenia and other psychoses being higher among those in the younger age category (<20 years old). Rates of alcohol/substance abuse were higher among those between 20 and 24 years of age, while rates of anxiety disorders and depression were higher among those between 25 and 29 years of age. The authors indicated that rates of mental disorders were higher in the Army in comparison to other branches of services, with the Army having the highest rates for every mental disorder category except schizophrenia. The rates of PTSD,

[76] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

depression, and alcohol and substance abuse disorders were also higher among those with combat-specific occupations.

The researchers reported that there were 425,489 incident reports of mental health problems among 361,489 soldiers who were not diagnosed with a mental health disorder. They suggested that approximately 70% of all reported mental health problems were related to life circumstances (n=194,869; 45.8%) or partner relationships (n=98,492; 23.1%) such as a return from a military deployment, bereavement, or difficulties with acculturation. Lastly, the researchers reported that the rates of mental health problems were similar to mental disorder diagnoses for gender, age, service, and military occupations.[77]

Reflection of Theories and Models Relevant to the Problem

Andersen Health Model of Health Care Utilization: As this study has direct applications to health care practice and policy, the *Andersen Health Model of Health Care Utilization* will be used to structure control variables in the study. This particular model (Figure 2.6) was devised by Ronald M. Andersen in 1968 to illustrate the various factors that lead to the utilization of health care services. Andersen's model suggests that health behaviors result from a complex interplay of contextual and individual factors. At the individual level, these are characterized as predisposing, enabling and need factors. Anderson's original model has been expanded several times since its inception, incorporating several additional concepts involving health care utilization.[78,79]

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[77] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[78] Andersen, R. M., & Newman, J. F. (1973). Societal and Individual Determinants of Medical Care Utilization in the United States. *The Milbank Memorial Fund Quarterly: Health and Society , 51* (1), 95-124.
[79] Andersen, R. M. (2008). National Health Surveys and the Behavioral Model of Health Services Use. *Medical Care , 46* (7), 647-653.

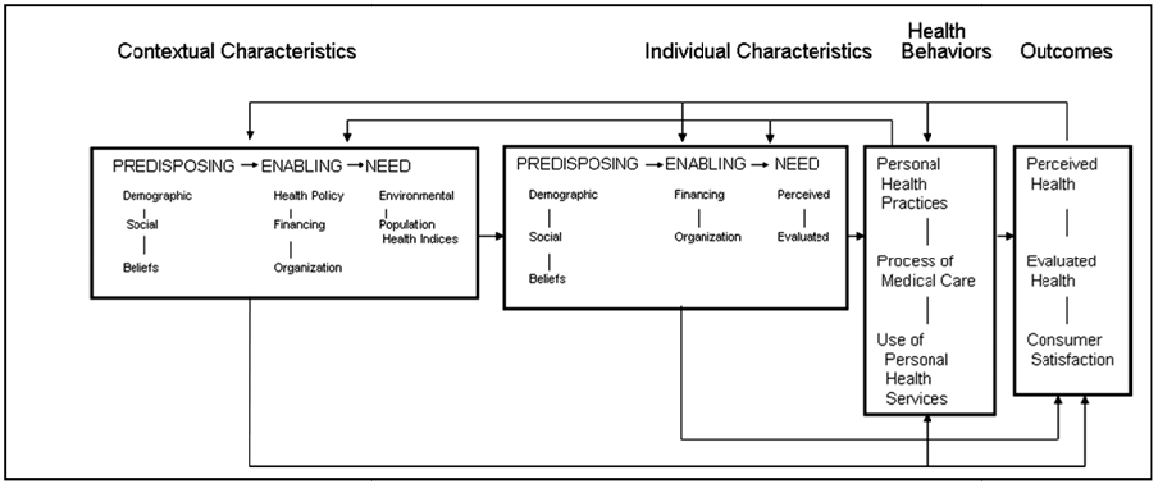

Figure 2.6: ***The Anderson Model of Health Care Utilization & Health Outcomes***

Stress-Care Model: In addition to Andersen's Model, the Stress-Care model by Sinclair and Tucker will also be used to structure control variables in the study as it defines a connection between personality, stress, and job performance for soldiers. According to Sinclair and Tucker (2006), stress leads to detrimental effects on performance and that personality traits affect both job performance and stress-response processes. They suggest that many military stressors while not deployed (or while in garrison) such as work load demands, long shifts, role ambiguity issues, self-control demands, and having to refrain from aggressive responses to confrontations that are typical of deployments may challenge effective performance or result in counterproductive behavior. They suggest that personality-related processes can influence a soldier's reactions to these stressors even as the experiences shape their personality development.[80]

The *Stress-Care Model* by Sinclair and Tucker (2006) was adapted from the *Stress-Response Process Model* by Bliese and Castro (2003) and categorized the effects

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[80] Sinclair, R. R., & Tucker, J. S. (2006). Stress-Care: An Intregrated Model of Individual Differences In Soldier Performance Under Stress. In T. W. Britt, C. A. Castro, & A. B. Adler (Eds.), *Military Life: The Psychology of Serving in Peace and Combat* (Vol. 1, pp. 202-231). Westport, CT: Praeger Security International.

of stress on soldiers into three separate components: potential stressors, strains, and performance outcomes (Figure 2.7).[81]

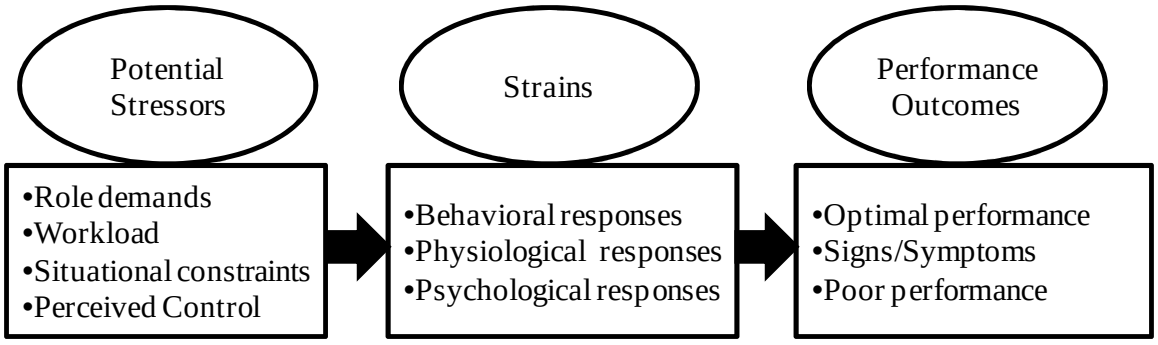

Figure 2.7: Stress-Response Process Model

Potential stressors are events that require adaptive responses from a soldier, including intense role demands, high workload, interpersonal conflict, situational constraints, and perceived control. These stressors can create strain such as the coupling of high work demands with low control, a lack of fit between one's personality and one's work environment, and/or an imbalance between an individual's perceived levels of efforts and rewards. *Strains* are the set of negative responses to stressors and can be cognitive, affective, or physical in nature. These events must then be appraised as threatening to be experienced as stressful. Lastly, *performance outcomes* refer to the consequences of strain for soldier readiness. According to the authors, *strain* impacts *performance* by hindering an individual's ability to utilize knowledge, skills, abilities, and by depleting one's motivational resources.[82]

[81] Sinclair, R. R., & Tucker, J. S. (2006). Stress-Care: An Intregrated Model of Individual Differences In Soldier Performance Under Stress. In T. W. Britt, C. A. Castro, & A. B. Adler (Eds.), *Military Life: The Psychology of Serving in Peace and Combat* (Vol. 1, pp. 202-231). Westport, CT: Praeger Security International.
[82] Sinclair, 203.*

Restatement of Research Questions/Hypotheses: As my study is focused on examining the factors affecting Army recruiters' mental health, my research questions will determine the prevalence (frequencies/percentages) of recruiters diagnosed with no mental health disorders or mental health problems, those with only mental health disorders (at least one or more), those with only mental health problems (at least one or more), those with both mental health disorders and problems, and how these compare to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center. I hypothesize that the prevalence of mental health disorders and mental health problems among recruiters will be significantly less in comparison to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center due to additional stringent mental health screening processes required to become a recruiter. In addition, my research questions will also determine what the most prevalent mental health disorder categories and mental health problem categories (in terms of frequencies and percentages) are among the recruiting population in comparison to those identified in the study by the Armed Forces Health Surveillance Center. I hypothesize that the most prevalent mental health disorder categories and mental health problem categories among the recruiting population will be similar in comparison to those identified in the study by the Armed Forces Health Surveillance Center. My research questions will also determine the prevalence of mental health treatments (no treatment, medications only, counseling only, and both medications and counseling) among the recruiting population and compare these with the frequencies and percentages identified in the study by McKibben et al. (2013) which examined the utilization of mental health services by U.S. Army soldiers. I hypothesize that prevalence

of mental health treatments in the recruiting population is similar to those identified in the study by McKibben et al. (2013).

CHAPTER THREE

METHODOLODY (OR PROCEDURES)

Methodology (or Procedures)

Chapter Three provides a discussion of methodology and collection of data for the study. The chapter will be divided into sections that include (a) population, (b) instrumentation and data collection, (c) sample, and (d) data analysis.

As noted previously, the common post-combat transition, combined with the various intense stressors of recruiting, and lack of potential support systems that soldiers are normally acquainted with can amplify the potential for adverse mental health outcomes for the recruiters and/or their family. Accordingly, soldiers transitioning into recruiting positions require considerable support to ensure their success, which regrettably is not always readily available due to limiting physical and administrative capabilities, and/or staffing levels in the Army and/or their new surrounding communities.

In turn, this study will strive to determine the prevalence (frequencies/percentages) of recruiters diagnosed with no mental health disorders or mental health problems, those with only mental health disorders (at least one or more), those with only mental health problems (at least one or more), those with both mental health disorders and problems, and how compare these to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center. It is proposed that the prevalence of mental health disorders and mental health problems among recruiters will be significantly less in comparison to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center due to stringent mental health suitability assessment evaluation required of soldiers selected to become recruiters or assigned to the recruiting command. In addition, this study will strive to

determine what the most prevalent mental health disorder categories and mental health problem categories (in terms of frequencies and percentages) are among the recruiting population and compare them to those identified in the study by the Armed Forces Health Surveillance Center. It is proposed that the most prevalent mental health disorder categories and mental health categories among the recruiting population will be similar in comparison to those identified in the study by the Armed Forces Health Surveillance Center. This study will also strive to determine the prevalence of mental health treatments (no treatment, medications only, counseling only, and both medications and counseling) among the recruiting population and compare these to the frequencies and percentages identified in the study by McKibben et al. (2013) which examined the utilization of mental health services by U.S. Army soldiers. It is proposed that the prevalence of mental health treatments in the recruiting population is similar to those identified in the study by McKibben et al. (2013).

Population

In order to support the Army recruiting mission, the best performing soldiers are selected annually from its ranks to become recruiters. These recruiters assist individuals interested in joining the Army by talking about their personal and professional experiences and providing them information on the vast opportunities and resources available to new Army soldiers. Depending on the needs of the Army, there are approximately 1,500-3,000 new recruiters assigned to USAREC each year. Of these participants, approximately 18% volunteer to be recruiters, while the remaining individuals are selected by Department of the Army to become recruiters. Recruiters typically fall into one of three groups: 1) Active duty recruiters with a military occupation

specialty (MOS) of 79R are recruiters who converted or chose to become permanent recruiters; 2) Department of the Army (DA) selected recruiters who are a combination of volunteers and those selected by the DA of the Army from a variety of career fields to serve as recruiters; and 3) Active Guard/Reserve (AGR) recruiters who are reservists who volunteer to become professional recruiters as a result to become the AGR program. Other soldiers assigned to the recruiting command provide command and control support services and have a varying levels of selection. Battalion and brigade commanders are typically selected by a board and rank ordered and not evaluated for suitability. Company commanders and other staff officers are subject to a review similar to the recruiter suitability assessment. Other enlisted personnel, unless they are a sexual assault prevention program manager, equal opportunity manager, or non-commissioned officer for the Inspector General, are not subject to review. Although the mission of AGR recruiters is to primarily recruit for the reserves, all recruiting stations now recruit as a team and do not distinguish mission. Furthermore, successful DA selected recruiters are aggressively encouraged or choose to convert to become permanent recruiters.[83]

DA selected recruiters (approximately 82% of the total) come from a variety of military occupational specialties or MOS's. They are generally considered to be exceptionally responsible individuals who are capable of functioning independently and able to manage the multiple demands and responsibilities required of recruiters. Those soldiers selected for recruiting are typically mid-career to senior-level non-commissioned officers (NCOs) in the rank of Staff Sergeant (E-6) or above. However, it is not unusual for lower ranking soldiers such as Sergeants (E-5) to be selected for recruiting duty. DA

[83] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

selected recruiters tend to be extremely knowledgeable in their respective areas of expertise (i.e. Infantry, Field Artillery, Medics, Mechanics, etc.), have had leadership positions, and are considered to be among the top of their career fields.[84]

In order to attend the various courses, such as the Army Recruiting Course, the Center Commanders Course, or the Career Counselor Course at the Recruiting and Retention Center (RRS), soldiers are required to meet a few criteria prior to enrolling. Soldiers must be at least 18 years of age and be able to speak English. There are no gender restrictions for any of the RRS courses. For DA selected soldiers (or recruiter candidates), a mental health suitability assessment (BHSA) is required. After arrival at the RRS, but before classes begin, they must also have a mental health screening exam (as discussed in Chapter 2). The exceptions are the Brigade and battalion commanders who are selected by senior Army leaders based on merit. They are only subject to the behavioral health screen after arrival at their courses. All DA selected recruiters candidates must have a mental health suitability assessment completed by a credentialed U.S. Army mental health provider (psychiatrist, psychologist, or physician) no earlier than six months prior to attending the Army Recruiting Course. With the exception of course for new commanders, all other courses have recruiters as students. They too are only subject to a mental health screening (Figure 3.1). This BHSA generally prevents students from attending the course if they have currently diagnosed mental disorders or medical problems that would hinder their ability to complete the course and fulfill their role as a recruiter. There are no exemptions. The exclusionary criteria include any Axis I or III diagnoses (i.e. acute psychosis) or the presence of a severe medical issue (i.e.

[84] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

severe traumatic brain injury), have been diagnosed but not engaged in treatment or is not one year post treatment. If the disorder is a substance abuse disorders, they may not be considered for recruiting duty until three years post treatment or five years after a an adverse incident such as a DUI. All students regardless of rank are subject to the Health and Wellness Questionnaire after arriving at the course. Those identified as being at risk for a psychiatric, behavioral health, or psychosocial problem are then seen individually by a behavioral health provider to determine fitness for recruiting duty.[85]

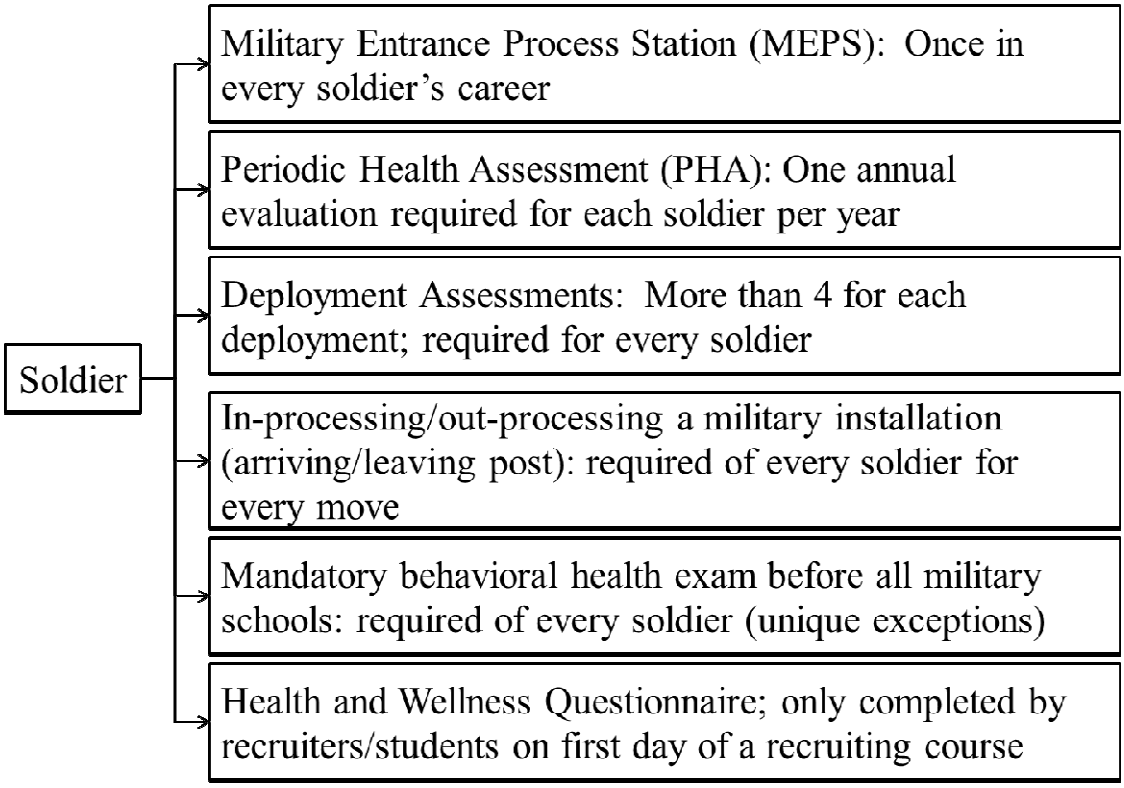

Figure 3.1: Mental Health Evaluations Required of Soldiers Prior to Becoming Recruiters

[85] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

Instrumentation and Data Collection

The conjoined study by the United States Recruiting Command, Florida State University (FSU) and Harvard University was previously conducted between 2011 and 2013 to look at suicide factors within a high risk population. The study compared normal assessments of suicide with Dr. Jointer's (FSU) assessment of suicide (perceived burdensomeness, etc.) and included Harvard's effort to predict suicidal behavior based on an implicit association test. Access to the study's data for my doctoral dissertation was granted by all three intuitional review boards. In addition, it is worth mentioning that access to this sample was arranged and granted by United States Army Recruiting Command, former Command Psychologist, LTC Ingrid Lim, as well as COL Bruce Crow, former Clinical Psychology Consultant to the U.S. Army Surgeon General.[86]

Data collection protocols: After addressing initial criteria with operations officials, recruiters are quickly transitioned to their courses to begin their training. During orientation at the RRS, all students complete a number of computer surveys and assessment instruments, such as a post-deployment surveys, personality inventories, and wellness screenings. Students were invited to participate in the study with Florida State University (FSU), Harvard University, and USAREC which examined the use of assessment tools regarding suicide. The existence of infrastructure and protocol already in place allowed for the incorporation of the additional survey).

As there is limited individual time available during the RRS courses for students and activities, potential study participants were informed of the USAREC, FSU, and

[86] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

Harvard study in a group setting. Recruitment of participants was conducted by a behavioral health specialist and FSU employee in civilian attire. This same individual completed the consent process for the entirety of the study. The behavioral health specialist was not in any of the soldiers' chain of command and was not part of the OCP-F's staff. Students were briefed by the consenting official on the study's intentions, potential risk and benefits, limits of confidentiality, compliance with HIPPA regulations, and points of contact should they had questions. Course instructors and the students' chain of command were not present at the time of recruitment and consent in order to prevent tacit or implicit coercion.[87]

Students in the course were then provided with three different choices: 1) participate in the Stress and Mental Strain Survey (SAMSS) (Appendix 2), 2.) participate in the Alternate Survey (AS) (Appendix 3), or 3.) not participate in the study at all (see Figure 3.2). All students were provided with an informed consent packet which detailed both of the first two options and an additional slip of paper which contained website links to the two different surveys. Consent for either of the first two options was rendered individually in a packet provided to each student. Those who opted to participate in the primary study of interest or the SAMSS were asked to complete an online battery that consisted of 34 self-report questions and a 5-minute on-line assessment called the Implicit Association Test (IAT), for a total time of approximately 12 minutes for most respondents. Responses from the SAMSS and IAT were used by the researchers to screen the students for overt suicidal thoughts or intent, an increasing dilemma among military personnel within recent years.

[87] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

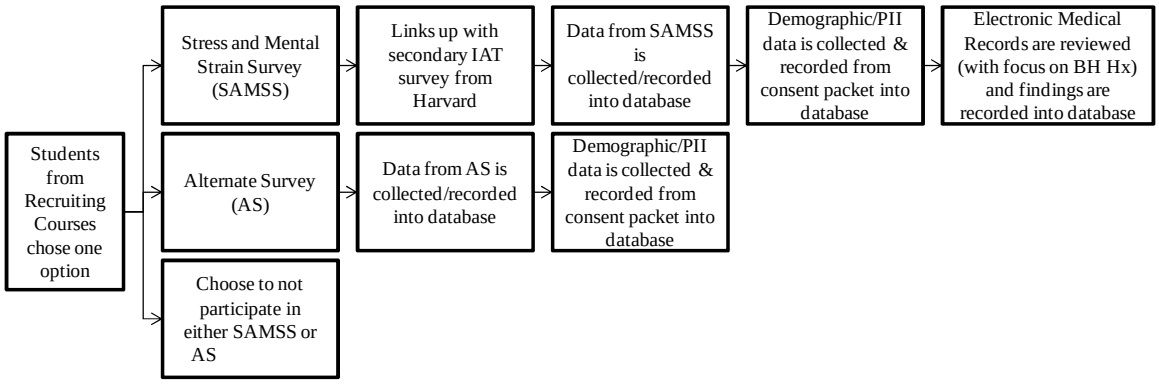

Figure 3.2: Overview of Data collection/recording process

Participants who opted not to participate in the SAMSS could complete the AS instead, which consisted of 30 online questions and took approximately the same amount of time. The primary purpose of the second survey was to prevent identification of participants from non-participants by peers. The answers from the AS were used by the FSU researchers to identify the reasons individuals choose not to participate in research programs and better adjust how surveys are conducted in military environments in the future. Students were also informed during the consent process that their electronic medical records would not be reviewed if they selected this option. However, personal and demographic information was collected from the consent forms from individuals who selected this survey and recorded into a separate database for later use by FSU and USAREC.

Those who declined to participate in either of the first two study options (the SAMSS and the AS) were instructed to leave their consent form packets blank. All

students were required turn in their paperwork reflecting their consent or refusal to participate in the study.[88]

Results from both of the first two surveys (the SAMSS and the AS) were then downloaded on a daily basis by study personnel from a data warehouse located on Fort Knox. Responses from the SAMSS were then reviewed by trained staff in accordance with the medical records of the soldiers to identify individuals who may have required immediate mental health care.

Individuals who completed the SAMSS then had their mental health records reviewed using AHLTA (an electronic medical system).[89] This system is utilized by all military practitioners and documents soldiers' health care encounters (including medical, mental health, and dental) and corresponding treatments at various military facilities (i.e. ambulatory encounters, treatments, and assigned prescriptions).[90]

The mental health records of the student participants were reviewed in a fashion similar to the methods utilized by the Armed Forces Health Surveillance Center (2012) which was previously discussed in Chapter Two.[91] With this in mind, participants' medical records were screened for diagnoses of "mental health disorders" (using the DSM codes: 290-319), diagnoses of "mental health problems" (that included V-coded diagnoses representative of psychosocial or mental health issues), and recorded for each

[88] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[89] Armed Forces Health Longitudinal Technology Application. (2014). *Armed Forces Health Longitudinal Technology Application*. Retrieved February 20, 2014, from Armed Forces Health Longitudinal Technology Application: http://www.ahlta.us/
[90] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[91] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

participant's identification code. Thus, data from their medical records reflected the numbers, natures, and rates of incident of mental disorder-specific diagnoses and "mental health problems" among the recruiters attending courses at the RRS during the two years of data collection.[92]

The "incident diagnosis" of a mental disorder or a mental health problem was defined by a mental health or medical visit with a DSM or V-code indicator diagnosis in the first or second diagnostic position (Axis I/II); two outpatient visits within 180 days documented with indicator diagnoses (from the same mental disorder or mental health problem-specific category) in the first or second diagnostic positions; or a single outpatient visit in a psychiatric or mental health care specialty setting (defined by Medical Expense and Performance Reporting System (MEPRS)) with an indicator diagnosis in the first or second diagnostic position.[93,94]

Recruiting candidates (ARC students) who were diagnosed with one or more mental disorders prior to the data collection were not considered at risk of incident diagnoses of the same conditions during the same period as they were previously screened and cleared by a military mental health provider within the last six months prior to attending the RRS (as previously mentioned). In addition, recruiters and recruiter candidates (ARC students) who were diagnosed with more than one mental disorder prior to the data collection period were considered incident cases in each category in which they fulfilled the case-defining criteria. Furthermore, recruiters and recruiter candidates (ARC students) could be incident cases only once in each mental disorder specific

[92] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.
[93] Armed Forces Health Surveillance Center, 6.*
[94] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

category. Only service members with no incident mental disorder-specific diagnoses during the data collection period were eligible for inclusion as cases of incident mental health problems (selected V-codes).[95,96]

Mental health diagnoses (mental health disorders and mental health problems) were then grouped into categories similar to previous studies by Seal et al. (2007) and the Armed Forces Health Surveillance Center (2012) which classified mental disorder-specific diagnoses that were indicative of an adjustment reaction (excluding PTSD), a substance abuse disorder, an anxiety disorder, post-traumatic stress disorder (PTSD), a depressive disorder, personality disorder, schizophrenia, other psychoses, and other mental health disorders (Table 3.1).[97,98,99] Similarly, alcohol abuse and dependence diagnoses were separated into two discrete categories. Likewise, V-coded diagnoses regarding mental health problems were grouped into five categories using previously published criteria in studies by Garvey et al. (2009) and the Armed Forces Health Surveillance Center (2012).[100,101] V-coded mental health problem categories included partner relationship problems, family circumstance problems, maltreatment related, life

[95] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.
[96] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[97] Seal, K. H., Bertenthal, D., Miner, C. R., Sen, S., & Marmar, C. (2007). Bringing the War Back Home: Mental Health Disorders Among 103,788 U.S. Veterans Returning from Iraq and Afghanistan Seen at Department of Veterans Affairs facilities. *Archives of Internal Medicine , 167* (5), 476-482.
[98] Armed Forces Health Surveillance Center. (2009). Relationships Between the Nature and Timing of Mental Disorders Before and After Deploying to Iraq/Afghanistan, Active Component, U.S. Armed Forces, 2002-2008. *Medical Surveillance Monthly Report , 16* (2), 2-6.
[99] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[100] Garvey, W. A., Messer, S. C., & Hoge, C. W. (2009). U.S. Military Mental Health Care Utilization and Attrition Prior to the Wars in Iraq and Afghanistan. *Social Psychiatry and Psychiatric Epidemiology , 44* (6), 473-481.
[101] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

circumstance problems, and mental, behavioral problems, and substance abuse counseling (Table 3.1).

Table 3.1: Mental Health Categories and Diagnostic Codes

Diagnostic Category for DSM Mental Disorders	**DSM Code**
Adjustment disorders	309.0x-309.9x (excluding 309.81)
Alcohol abuse/dependence disorders	303.xx, 305.0x
Substance abuse/dependence disorders	304.xx, 305.2x-305.9x
Anxiety disorders	300.00-300.09, 300.20-300.29,300.3
Post-traumatic stress disorder	309.81
Depressive disorders	296.20-296.35, 296.50-296.55, 296.9, 300.4, 311
Personality disorders	301.0, 301.10, 301.11, 301.12, 301.13, 301.20, 301.21, 301.22, 301.3, 301.4, 301.50, 301.51, 301.59, 301.6, 301.7, 301.81, 301.82, 301.83, 301.84, 301.89, 301.9
Schizophrenia	295.xx
Other psychoses	293.81, 293.82, 297.0x-297.3x, 297.8, 297.9, 298.0, 298.1, 298.2, 298.3, 298.4, 298.8, 298.9
Other mental health disorder	Any other code between 290-319 (excluding 305.1, 299.xx, 315.xx, 317.xx-319.xx)
Diagnostic Category for V-Coded Mental Health Problem	**V-Code**
Partner relationship problems	V61.0x, V61.1, V61.10 (excluding V61.11, V61.12)
Family circumstance problems	V61.2, V61.23, V61.24, V61.25, V61.29, V61.8, V61.9
Maltreatment related	V61.11, V61.12, V61.21, V61.22, V62.83, 995.80-995.85
Life circumstance problems	V62.xx (excluding V62.6, V62.83)
Mental, behavioral problems, substance abuse counseling	V40.xx (excluding V40.0, V40.1), V65.42

Information from the students' responses to the SAMSS and their medical records was stored in a centralized relational database created by the research data technician to manage information from the project. The research data technician was responsible for

making corrections to the database. Any changes made to the database as a result of data monitoring resulted in the creation of a new record. The original record remained in the database but was flagged as modified along with the source of data error (where possible to determine). This procedure allowed the estimation of error rates and ensured a clear audit trail for quality assurance. The research data technician was also responsible re-checking all data for completeness and accuracy prior to processing. Any omissions, inaccuracies, or discrepancies were noted and every attempt was made to resolve the problem. In instances where data was incomplete, efforts were quickly made to contact the student to complete the form. Furthermore, all of this data was utilized strictly for research purposes (with the exception of those who referred to the OCP-F mental health staff for an additional mental health evaluation as a result of a significant indicator or suicidal behavior or suicidal ideation).[102]

To ensure there was no breach of confidentiality, every effort was made to protect the privacy of the study's participants. Each respondent was assigned a unique participant identifying number that ensured anonymity. All data was stored on a password protected computer file that contained information linking participant names to their assigned numbers. This information was only accessible by the consenting official/research data technician. The computer, computer files, and any backup external information containing participant identifiable information used within the study were stored and secured in accordance with USAREC and Fort Jackson's Physical Security standard operating procedures, ensuring that all data was secured by a tertiary system of locking devices (i.e. locked wing, individual office, computer cables, and locking filing

[102] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

cabinets). All data collected during the study will be retained indefinitely by USAREC.[103]

Sample

Approximately 100 soldiers attend the Army Recruiter Course (ARC) at the Recruiting and Retention School (RRS) on Fort Jackson, South Carolina on a weekly basis. Between 50 and 100 other soldiers attend other recruiting related training courses at the RRS as they increase in rank and responsibility. Thus, several hundred Army students (depending on the U.S. Army's needs for recruiters) attend the RRS on an annual basis.

Approximately 4,444 recruiters and recruiting candidates (from all of the courses) were provided the opportunity to participate in the study by USAREC, FSU, and Harvard. Data was collected from participants from each course at the RRS from October 4, 2011 to July, 7, 2013. Of those offered participation in the study, 2,792 (62.83%) recruiters and recruiting candidates (ARC students) chose to participate in the study, complete the SAMSS, and had their medical records reviewed. Those who opted to participate in the AS or chose not to participate in the SAMSS or AS were not included in this sample size as this data will be utilized in a separate study by FSU and USAREC at a later time.

Dependent Variable: All military mental health encounters are documented in AHLTA utilizing diagnosis codes (290 to 319) from the Diagnostic and Statistical Manual, 4th

[103] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

edition (DSM-IV).[104] Additionally, many military mental health providers also utilize V-codes when documenting patient encounters in order to account for issues that are not defined by mental disorder-specific diagnosis codes. These V-codes represent psychosocial and mental health conditions related to complex military life circumstances, such as marital, family, other interpersonal relationships, occupational, and military related stresses.[105,106] A study by Garvey et al. (2009), indicated that military members with mental health encounters documented with V-coded diagnoses were at greater risk of attrition from military in comparison to those being treated only for physical health conditions, but at less risk of attrition than those who received mental disorder specific ICD-9-CM diagnoses. These DSM and V-codes were then used to form a new mental health variable which reflected the prevalence of mental health disorders (MHDs) and mental health problems (MHPs) among recruiters. These categories included having no diagnoses for MHDs or MHPs, being diagnosed with only MHDs (one or more), being diagnosed with only MHPs (one or more), and being diagnosed with both MHDs and MHPs (at least one of both).

Independent variables

Socio-economic and Other Variables: The *Andersen Health Model of Health Care Utilization* was used to structure control variables in the study. Andersen's model suggests that health behaviors result from a complex interplay of contextual and

[104] American Psychiatric Association. (2011). *Diagnostic and Statistical Manual of Mental Disorders* (4th Edition ed.). Arlington, Virginia, United States of America: American Psychiatric Association.
[105] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.
[106] Garvey, W. A., Messer, S. C., & Hoge, C. W. (2009). U.S. Military Mental Health Care Utilization and Attrition Prior to the Wars in Iraq and Afghanistan. *Social Psychiatry and Psychiatric Epidemiology , 44* (6), 473-481.

individual factors. At the individual level, these are characterized as predisposing, enabling and need factors.[107,108]

Variables examined in AHLTA reviews included their name, point of contact (in case of contact for a breach of protocol), social security number, and birth date. For the purposes of this study, all patient-identifying information (PII) was removed prior to analysis.

Predisposing variables examined included demographic characteristics, including age, gender, marital status, race/ethnicity, course the recruiter was attending, and Army component (regular active duty soldiers or activated Guard/Reservists). All responses were self-reported and verified through their medical records. Race-ethnicity survey responses were categorized as: *non-Hispanic whites, non-Hispanic blacks, Hispanics,* and *other*. Race is conceptualized as a social construct with implications for both culture and the responses of health care providers to the individual.

Enabling factors included rank (income). Rank was categorized as sergeant, staff sergeants, higher non-commissioned officers (sergeant first class, master sergeants/first sergeants, and command sergeant majors/sergant majors), and officers (second lieutenants and above).

Need was assessed through suicidal behaviors, mental health visits, and treatments. Suicidal behaviors reflected episodes of suicide, non-suicidal injuries, suicidal ideation, and depression. This variable was reformatted to having no episodes and having one or more episodes of at least one of these behaviors. The mental health

[107] Andersen, R. M., & Newman, J. F. (1973). Societal and Individual Determinants of Medical Care Utilization in the United States. *The Milbank Memorial Fund Quarterly: Health and Society , 51* (1), 95-124.
[108] Andersen, R. M. (2008). National Health Surveys and the Behavioral Model of Health Services Use. *Medical Care , 46* (7), 647-653.

visits variable was reformatted to five categories (0-1 visits, 2-3 visits, 4-5 visits, and 6 or more visits). Mental health treatment was reformated to three categories (no treatment, treatment with medications, treatment with counseling, and treatment with both medications and counseling).

Data Analysis

A response to research question one (determining the frequency/percentages of recruiters diagnosed with (a) no mental health disorders or mental health problems, (b) only mental health disorders (at least one or more), (c), only mental health problems (at least one or more), (d) both mental health disorders and problems) was generated by conducting a uni-variate (characteristics, frequencies, and percentages) and a bi-variate (Chi-Square) analysis and specifically comparing the dependent variable (mental health variable) with the other independent or control variables. *Andersen's Model of Health Care Utilization* was used to structure these independent or control variables, which included the *predisposing* variables (age, rank, gender, marital status, race/ethnicity, course, and component), *enabling* variables (rank), and *need* variables (suicidal behaviors, mental health visits, and treatments).

A multivariate analysis was then conducted to examine the odds ratios of the independent or control variables with a reformatted version of the mental health variable (no mental health disorders or problems versus the presence of a mental health disorder or problem). The model compared the dependent variable (reformatted mental health variable) with the *predisposing* variables (age, gender, marital status, race/ethnicity, course, and component) and *enabling* variable (rank).

These results regarding services members' mental health disorder and problems were then compared with the findings that were available in the Armed Forces Health Surveillance Center study and interpreted in the discussion section.

A response to research question two (determining what were the most common mental health disorder categories and mental health problem categories in the recruiting population in comparison to those identified in the study by the Armed Forces Health Surveillance Center) was generated by conducting a uni-variate (characteristics, frequencies, and percentages) analysis among recruiters who had at least one mental health disorders or more to determine what the most prevalent disorders were (i.e. *adjustment reaction, anxiety disorder* category, *PTSD* category, etc.). Similarly, a uni-variate (characteristics, frequencies, and percentages) analysis among recruiters who had at least one mental health problem or more (using a SAS "where" code) was also generated to determine what the most prevalent problem categories were (i.e. *partner relational problem* category, *family circumstance problem* category, *life circumstance problem* category, etc.). These findings from these two different analyses were then compared to the data that was available from the Armed Forces Health Surveillance Center's study and used to form a table reflecting the differences between the two studies.

A response to research question three, determining the prevalence of mental health treatments among the recruiting population, was generated by conducting a uni-variate (characteristics, frequencies, and percentages) and a bi-variate (Chi-Square) analysis and specifically comparing the dependent variable (treatment) with the other independent or control variables. *Andersen's Model of Health Care Utilization* was used

to structure these independent or control variables, which include the *predisposing* variables (age, rank, gender, marital status, race/ethnicity, course, and component), *enabling* variables (rank), *need* variables (suicidal behaviors, mental health disorders and problems, and mental health visits).

Two multivariate analyses were then conducted to examine the odds ratios of the independent or control variables with a reformatted version of the treatment variable (no treatment versus any treatment). The first model only compared the dependent variable (reformatted treatment variable) with the *predisposing* variables (age, gender, marital status, race/ethnicity, course, and component) and *enabling* variable (rank). The second model similarly compared the reformatted treatment variable with all of the *predisposing* and *enabling* variables, along with a *need* variable, specifically the mental health variable (no mental health disorders or problems, only mental health disorders, only mental health problems, both mental health disorders and problems).

An additional multivariate analyses was conducted to examine the odds ratios of the independent or control variables with a second reformatted version of the treatment variable (medication only, counseling only, and combination of both medication and counseling) that specifically examined recruiters who had treatment. This model compared the dependent variable (second reformatted treatment variable) with the *predisposing* variables (age, gender, marital status, race/ethnicity, course, and component), *enabling* variable (rank), and the *need* mental health variable (no mental health disorders or problems, only mental health disorders, only mental health problems, both mental health disorders and problems).

These results regarding services members' treatments were then compared with the findings that were available in the Armed Forces Health Surveillance Center study and interpreted in the discussion section.

All tables in the uni-variate analysis are presented with un-weighted counts (N) and un-weighted estimates. Statistical analysis was conducted utilizing SAS 9.3 software (version 9.3; SAS Institute Inc., Cary, North Carolina).

Research Design

The majority of the analyses were descriptive in nature, utilizing the AHLTA records of participating recruiters (or those that completed the SAMSS) to assess their mental health diagnoses, mental health problems, corresponding treatment, and to address the purpose/objectives of this study. In turn, the design of the study resembled that of a quasi-experimental design, particularly a one group post-test design ($X\ O_1$) as there was no control group, no intervention, or randomization implemented within the study. Instead, those that participated in SAMMS formed the sample whose AHLTA records were reviewed. There were no ethical concerns regarding the design of the study as students were not required to participate in the study. Additionally, as the study was a combined effort, it was previously approved by three different Institutional Review Boards (Florida State University, Harvard University, and USAREC) before being implemented.

CHAPTER FOUR

FINDINGS (OR RESULTS)

Results

Chapter 4 provides results of data analyses and findings of the study. This chapter will be divided into sections that include (a) Response rate, (b) Demographic data, and (c) Findings.

Response Rate

Approximately 4,444 students (from all of the courses) were provided the opportunity to participate in Florida State University's, Harvard's, and USAREC's SAMSS. Data was collected from participants from each course at the RRS from October 4, 2011 to July, 7, 2013. Of those offered participation in the study, 2,792 (62.83%) recruiters and recruiting candidates (ARC students) chose to participate in the study, complete the SAMSS, and had their medical records reviewed. Individuals that opted to participate in the AS or chose not to participate in either the SAMSS or AS were not included in this sample size as this data was recorded in a separate database that will be utilized in a separate study by FSU and USAREC at a later time. Thus, it is important to note that responders and non-responders could not be compared in this study as data was limited to recruiters who completed the SAMSS.

Demographic Data

Recruiters (including those deemed recruiting candidates) were unevenly divided by gender (8.09% female), generally between the ages of 30 and 39 years of age (56.24%), principally white (65.75%), and mostly married (77.32%; Table 4.1). More than three-quarters of the soldiers that participated were in the Army Recruiting Course (75.03%). Almost all the recruiters were regular active duty soldiers (94.42%), while the

remaining portions were either activated Guard/Reservists. Slightly less than a half of the recruiters were Staff Sergeants (47.04%).

Table 4.1: Individual characteristics of US Army Recruiters, 2011-2013.

	Total	
Variable	**N**	**%**
Total, all adults	2783	100.0
Predisposing factors		
Gender		
Male	2557	91.91
Female	225	8.09
Age		
18-29	988	35.64
30-39	1559	56.24
40-older	225	8.12
Marital Status		
Single/Engaged	393	14.24
Married	2134	77.32
Divorced	233	8.44
Race		
Non-Hispanic White	1814	65.75
Non-Hispanic Black	419	15.19
Hispanic	375	13.59
Other	151	5.47
Course		
Army Recruiting Course	2088	75.03
Other recruiting courses (SC, CC, FSC, MTC)	695	24.97
Component		
Active Duty Soldiers	2625	94.42
Activated Guard/Reservists	155	5.58
Enabling characteristics		
Rank (Income)		
SGT	1077	38.7
SSG	1309	47.04
SFC, MSG/1SG, and SGM/CSM	247	8.88
2LT and higher	150	5.39

Need		
Mental Health Disorders (MHD)/Problems (MHP)		
Have no MHDs or MHPs	1686	60.58
Has only MHDs	669	24.04
Has only MHPs	173	6.22
Has both MHDs and MHPs	255	9.16
Suicidal behaviors (suicide, suicidal ideation, non-suicidal self-injuries, and depressive episodes)		
No behaviors	2413	86.89
Incident with one or more behaviors	364	13.11
Treatment/Medication prescribed		
No Tx	1235	44.47
Tx w/ medications	466	16.78
Tx w/ counseling	361	13.00
Tx w/ medications and counseling	715	25.75
Mental Health Visits		
0-1 visits	981	35.33
2-3 visits	776	27.94
4-5 visits	358	12.89
6 or more visits	662	23.84

Roughly one-fourth of recruiters were diagnosed with having at least one mental disorder (24.04%); 6.22% were diagnosed with having at least one mental health problem, and less than one-tenth were diagnosed as having both at least one mental health disorder and at least one mental health problem (9.16%; Table 4.1). Less than one-sixth of recruiters reported having at least one incident involving a suicidal behavior (13.11%). Slightly over one-fourth reported treatments with medications and counseling (25.75%) and approximately one-third of recruiters had between 0 and 1 mental health visits (35.33%).

Findings

Mental health disorder and problem category frequencies among recruiters in comparison with the AFHSC population

There were 924 (33.20%) incident diagnoses of at least one mental health disorder among the 2,783 recruiters in the study (Table 4.2) in comparison to 936,283 incident diagnoses of at least one mental health disorder (52.20%) among the 1,793,506 service members in the AFHSC study (Table 4.2). The most common mental health disorder categories among the recruiters were *Other Mental Health Disorders* (19.22%), *Adjustment Reaction* (15.38%), *Anxiety Disorder* (8.19%), *Depressive Disorders* (8.23%), and *Post-Traumatic Stress Disorder* (3.67%). In comparison, the most common mental health disorder categories among the AFHSC population were *Adjustment Reaction* (26.30%), *Other Mental Health Disorders* (17.80%), *Depressive Disorders* (16.90%), *Alcohol Abuse* (13.00%), and *Anxiety Disorder* (10.50%).

Table 4.2: Mental Health Disorder (MHD) and Mental Health Problem (MHP) Frequencies Among Recruiters (Have at least one or more MHD and/or MHP) and the AFHSC Population, 2011-2013; (*AFHSC population: 1,793,506 adults sampled; 936,283 (52.20%) had at least 1 MHD; 459,430 (25.62%) had 2 or more MHD.)(** Recruiting population: 2783 adults sampled; 924 adults sampled in recruiting population (33.20%) had at least 1 MHD).

	Recruiter Population		AFHSC Population	
Mental Health Disorders	**N**	**%**	**N**	**%**
Total, all adults	2782	100.00	1,793,506	100.00
Adjustment Reaction	428	15.38	471,833	26.30
Alcohol Abuse	82	2.95	232,625	13.00
Substance Abuse	*5	0.18	73,623	4.10
Anxiety Disorder	228	8.19	187,918	10.50
Post-Traumatic Stress Disorder	102	3.67	102,549	5.70
Depressive Disorders	229	8.23	303,880	16.90
Personality Disorders	9	0.32	81,223	4.50
Other Psychoses	*0	0.00	21,028	1.20
Other Mental Health Disorders	535	19.22	318,827	17.80
Mental Health Problems	**N**	**%**	**N**	**%**
Total, all adults	2782	100.00	425,489	100.00
Partner Relationship Problems	253	9.09	98,492	23.10
Family Circumstance Problems	119	4.28	38,495	9.05
Life Circumstance Problems	125	4.49	194,869	45.80
Mental, Behavioral Health Problems, or Substance Abuse Counseling	*0	0.00	71,943	16.91

* Starred estimates are based on less than 5 observations and are thus unreliable.

In addition, there were 428 (15.38%; Table 4.2) incident diagnoses of at least one mental health problem among the 2,783 recruiters that participated in the study, while there were 425,489 (23.72%) incident diagnoses of at least one mental health problem among the 1,793,506 service members in the AFHSC study.

The most common mental health problems among the recruiting population were *Partner relationship problems* (9.09%), *Life circumstance problems* (4.49%), and *Family circumstance problems* (4.28%). The most common mental health diagnoses among the AFHSC population were *Life circumstance problems* (45.80%), *Partner relationship*

problems (23.10%), and *Mental, Behavioral Health Problems, or Substance Abuse problems* (16.91%).

Prevalence of mental health disorders and problems among recruiters

Over 39% of recruiters were diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (Table 4.3). Approximately one in every four recruiters was diagnosed with only having at least one mental health disorder (24.08%), with an additional 6.22% being diagnosed with at least one mental health problem, and 9.16% being diagnosed as having at least one mental health disorder and one mental health problem. Females were more apt to have been diagnosed with mental health disorders and problems than men (50.22%). Slightly less than one-third were diagnosed with only having at one mental health disorder (30.22%), with an additional 6.67% being diagnosed with at least one mental health problem, and 13.33% being diagnosed with having both at least one mental health disorder and problem. Divorced recruiters were more likely to be diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (48.50%). Divorced recruiters were more apt to have been diagnosed with having at least one mental health problem (15.02%) and being diagnosed with the combination of having at least one mental health disorder and one mental health problem (8.58%); in contrast they were less likely to have been reported as being diagnosed with having at least one mental health disorder (24.89%) in comparison to single or engaged recruiters (27.99%). Individuals in the Army Recruiting Course had a higher prevalence of being diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (41.19%). Most recruiters with mental health disorders were in the Army Recruiting Course

Table 4.3: Prevalence of Mental Health Disorders and Problems (MHD and MHP; one or greater) among US Army Recruiters, by individual characteristics, 2011-2013.

	Total	No MHDs or MHPs		Only have MHDs		Only have MHPs		Both MHDs or MHPs			
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**P-Value**
Total, all adults	2783	100.00	1686	60.58	669	24.08	173	6.22	255	9.16	
Predisposing factors											
Gender											0.0004
Male	2557	91.91	1573	61.52	601	23.50	158	6.18	225	8.80	
Female	225	8.09	112	49.78	68	30.22	15	6.67	30	13.33	
Age											0.2593
18-29	988	35.64	629	63.66	214	21.66	58	5.87	87	8.81	
30-39	1559	56.24	921	59.08	390	25.02	97	6.22	151	9.69	
40-older	225	8.12	132	58.67	59	26.22	17	7.56	17	7.56	
Marital Status											<0.0001
Single/Engaged	393	14.24	248	63.10	110	27.99	11	2.80	24	6.11	
Married	2134	77.32	1304	61.11	494	23.15	142	6.65	194	9.09	
Divorced	233	8.44	120	51.50	58	24.89	20	8.58	35	15.02	
Race											0.7232
Non-Hispanic White	1814	65.75	1112	61.30	440	24.26	102	5.62	160	8.82	
Non-Hispanic Black	419	15.19	245	58.47	98	23.39	32	7.64	44	10.50	
Hispanic	375	13.59	222	59.20	87	23.20	29	7.73	37	9.87	
Other	151	5.47	94	62.25	35	23.18	10	6.62	12	7.95	

Course											0.0077
Army Recruiting Course	2088	75.03	1228	58.81	518	24.81	137	6.56	205	9.82	
Other recruiting courses	695	24.97	458	65.90	151	21.73	36	5.18	50	7.19	
Component											<0.0001
Active Duty	2625	94.42	1563	59.54	647	24.65	168	6.40	247	9.41	
Activated Guard/Reservists	155	5.58	121	78.06	22	14.19	*5	3.23	7	4.52	
Enabling											
Rank (Income)											0.0158
SGT	1077	38.70	658	61.10	272	25.26	52	4.83	95	8.82	
SSG	1309	47.04	763	58.29	310	23.68	100	7.64	136	10.39	
SFC, MSG/1SG, and SGM/CSM	247	8.88	163	65.99	54	21.86	13	5.26	17	6.88	
2LT and higher	150	5.39	102	68.00	33	22.00	8	5.33	7	4.67	

* Starred estimates are based on less than 5 observations and are thus unreliable.

(24.81%); similarly the majority of recruiters with mental health problems and the combination of both mental health disorders and problems were in the same course (6.56% and 9.82%). Over one-third of recruiters in the regular active duty component were diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (40.46%). Slightly less than one-fourth of recruiters in the regular active duty component were diagnosed with at least mental health disorder (24.65%), while 6.40% were diagnosed with at least one mental health problem, and 9.41% were diagnosed as having at least one mental health disorder and one mental health problem. Staff sergeants were more likely to have been diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (41.71%). Staff sergeants were more apt to have been diagnosed as having the combination of at least one mental health disorder and one mental health problem (10.39%) and diagnosed with having at least one mental health problem (7.64%); in contrast they were less likely to have been reported as being diagnosed with having at least one mental health disorder (23.68%) in comparison to sergeants (25.26%).

Mental health disorders, problems, and need factors among recruiters

One in every seven recruiters reported having at least one incident involving a suicidal behavior (13.11%; Table 4.4). Recruiters who reported suicidal behaviors (at least one incident or more) were more likely among those diagnosed with having at least one mental health problem (62.91%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (34.34%); in contrast, those who reported suicidal behaviors were less likely to have been diagnosed with one mental health problem or more (0.82%). Recruiters diagnosed with at least one mental

Table 4.4: Prevalence of Mental Health Disorders and Problems (MHD and MHP; one or greater) among US Army Recruiters, by need, 2011-2013.

	Total		No MHDs or MHPs		Only have MHDs		Only have MHPs		Both MHDs or MHPs		
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**P-Value**
Total, all adults	2783	100.0	1686	60.58	669	24.08	173	6.22	255	9.16	
Need											
Suicidal behaviors (suicide, suicidal ideation, non-suicidal self-injuries, and depressive episodes)											<0.0001
No behaviors	2413	86.89	1673	69.33	440	18.23	170	7.05	130	5.39	
Incident with one or more behaviors	364	13.11	7	1.92	229	62.91	*3	0.82	125	34.34	
Treatment/Medication											<0.0001
No Tx	1235	44.47	1172	94.90	43	3.48	19	1.54	*1	0.08	
Tx w/ medications	466	16.78	370	79.40	76	16.31	13	2.79	7	1.50	
Tx w/ counseling	361	13.00	90	24.93	136	37.67	85	23.55	50	13.85	
Tx w/ medications and counseling	715	25.75	48	6.71	414	57.90	56	7.83	197	27.55	
Mental Health Visits											<0.0001
0-1 visits	981	35.33	889	90.62	76	7.75	9	0.92	7	0.71	
2-3 visits	776	27.94	571	73.58	128	16.49	61	7.86	16	2.06	
4-5 visits	358	12.89	163	45.53	122	34.08	44	12.29	29	8.10	
6 or more visits	662	23.84	57	8.61	343	51.81	59	8.91	203	30.66	

* Starred estimates are based on less than 5 observations and are thus unreliable.

health disorder, one mental health problem, or a combination of both were more likely to be treated with a combination of medications and counseling (93.29%). Over one-half of recruiters that received a combination of medication and counseling treatments were diagnosed with having at least one mental health problem (57.90%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (27.55%); in contrast, those who reported treatment with medications and counseling were less likely to have been diagnosed with one mental problem or more (7.83%). Recruiters that were diagnosed with at least one mental health disorder, one mental health problem, or a combination of both were more likely to have had 6 or more mental health visits (91.39). Recruiters with 6 or more visits were more apt to have been diagnosed with having at least one mental health problem (51.81%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (30.66%); in contrast, those with 6 or more visits were less likely to have been diagnosed with one mental health problem or more (8.91%).

Adjusted relationship between recruiters, mental health disorders, and mental health problems

The diagnoses of mental health disorders or mental health problems were significantly associated with recruiter characteristics in the multivariable adjusted analysis (Table 4.5). Married recruiters (OR 1.12) had slightly higher odds of being diagnosed with a mental health disorder or problem, while middle-aged recruiters (30-39 years, OR 0.83) had slightly less odds of being diagnosed with a mental health disorder or problem. There were no other factors associated with mental health disorders in this model.

Table 4.5: Adjusted Odds for Mental Health Disorder or Mental Health Problem (MHD and MHP; one or greater) among US Army Recruiters, 2011-2013.

Characteristic	Odds	95% CI		P value
Predisposing factors				
Gender				0.0006
Female	1.68	1.25	2.25	
Age				0.0061
18-29	0.64	0.45	0.89	
30-39	0.83	0.61	1.13	
40-older (referent)	0.00			
Marital Status				0.0365
Single/Engaged (referent)	0.00			
Married	1.12	0.89	1.41	
Divorced	1.54	1.10	2.15	
Race				0.8936
Non-Hispanic White (referent)	0.00			
Non-Hispanic Black	1.00	0.80	1.26	
Hispanic	1.06	0.84	1.33	
Other	0.90	0.64	1.28	
Course				0.0064
Army Recruiting Course (referent)	0.00			
Other recruiting courses	0.74	0.59	0.92	
Component				<0.0001
Active Duty Soldiers (referent)	0.00			
Activated Guard/Reservists	0.41	0.27	0.60	
Enabling characteristics				
Rank (Income)				0.3117
SGT (referent)	0.00			
SSG	1.06	0.88	1.27	
SFC and MSG/1SG	0.82	0.59	1.15	
2LT and higher	0.81	0.53	1.25	

Prevalence of treatment among recruiters

Over one-half of recruiters received some form of mental health treatment (55.53%; Table 4.6). Recruiters were more apt to have had the combination of being prescribed medications and received counseling (25.75%) in comparison to those who were only prescribed medications (16.78%), and only received counseling (13.00%). Females were more likely to have received treatment (66.07%). In addition, females

were more apt to have had the combination of being prescribed medications and received counseling (35.71%) and only been prescribed medications (18.75%) in comparison to men who were more likely to having only received counseling (13.13%). Older recruiters (40 and above) were more likely to have received treatment via medications, counseling, or a combination of both medications and counseling (66.07%). In contrast, younger aged recruiters (18-29 years) were more apt to have the combination of being prescribed medications and received counseling (24.01%) and only received counseling (13.78%) in comparison to older individuals (40 and older) who were more likely to having only received medications (26.58%). Divorced recruiters were more likely to have received treatment (63.52%). Single and engaged recruiters were less likely to have had any treatments in comparison married or divorced individuals (Table 4.6). Soldiers in the Army Recruiting Course were more apt to have received treatment by means of medications, counseling, or a combination of both medications and counseling (55.56%). Slightly over one-fourth of recruiters in the Army recruiting course received the combination of medications and counseling (26.75%), while 14.00% only had counseling, and 14.81% were only treated with medications. Regular active duty soldiers were more likely to have been treated by medication, counseling, or a combination of both (56.79%). Over one fourth of regular active duty recruiters received a combination of both medications and counseling (26.58%), while 17.05% were treated with only medications, and 13.16% only received counseling. Staff sergeants were more apt to have had treatment, with over half being treated by medications, counseling, or combination of both (58%). Staff Sergeants were more likely to have received the combination of mediations and counseling (28.00%) in comparison to sergeants who

Table 4.6: Prevalence of Mental Health Treatments among US Army Recruiters, by individual characteristics, 2011-2013.

	Total		None		Medication alone		Counseling alone		Medications and Counseling		
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**P-Value**
Total, all adults	2783	100.00	1235	44.47	466	16.78	361	13.00	715	25.75	
Predisposing factors											
Gender											0.0009
Male	2552	91.93	1158	45.38	424	16.61	335	13.13	635	24.88	
Female	224	8.07	76	33.93	42	18.75	26	11.61	80	35.71	
Age											<0.0001
18-29	987	35.68	489	49.54	125	12.66	136	13.78	237	24.01	
30-39	1557	56.29	657	42.20	280	17.98	196	12.59	424	27.23	
40-older	222	8.03	86	38.74	59	26.58	28	12.61	49	22.07	
Marital Status											0.0136
Single/Engaged	393	14.26	200	50.89	57	14.50	44	11.20	92	23.41	
Married	2129	77.28	939	44.11	368	17.29	282	13.25	540	25.36	
Divorced	233	8.46	85	36.48	39	16.74	31	13.30	78	33.48	
Race											
Non-Hispanic White	1809	65.71	789	43.62	302	16.69	232	12.82	486	26.87	0.7176
Non-Hispanic Black	419	15.22	193	46.06	70	16.71	58	13.84	98	23.39	
Hispanic	374	13.59	173	46.26	61	16.31	53	14.17	87	23.26	
Other	151	5.48	70	46.36	28	18.54	14	9.27	39	25.83	

Course											<0.0001
Army Recruiting Course	2086	75.12	927	44.44	309	14.81	292	14.00	558	26.75	
Other recruiting courses	691	24.88	308	44.57	157	22.72	69	9.99	157	22.72	
Component											<0.0001
Active Duty Soldiers	2622	94.45	1133	43.21	447	17.05	345	13.16	697	26.58	
Activated Guard/Reservists	154	5.55	102	66.23	19	12.34	16	10.39	17	11.04	
Enabling characteristics											
Rank (Income)											<0.0001
SGT	1076	38.75	507	47.12	145	13.48	147	13.66	277	25.74	
SSG	1307	47.07	549	42.00	220	16.83	172	13.16	366	28.00	
SFC, MSG/1SG, and SGM/CSM	245	8.82	116	47.35	63	25.71	27	11.02	39	15.92	
2LT and higher	149	5.37	63	42.28	38	25.50	15	10.07	33	22.15	

* Starred estimates are based on less than 5 observations and are thus unreliable.

were more likely to have only received counseling (13.66%), or higher Non-commissioned officers (SFC, MSG/1SG, and SGM/CSM) who were more likely to have only been prescribed medications (25.71%).

Treatment and other need factors

Almost all recruiters were reported at least one suicidal behavior received some form of treatment (98.63%; Table 4.7). Recruiters who reported suicidal behaviors (at least one incident or more) were more likely to have been treated with a combination of medications and counseling (82.69%) and only having received counseling (13.46%), but less likely to have only have been treated with medications (2.47%). Similarly, most recruiters diagnosed with at least one mental health disorder received some form of treatment (93.57%). Over three-quarters of recruiters that received the combination of both medications and counseling (77.25%) were diagnosed with having both mental health disorders and mental health problems, while those who only received counseling were more likely to have only been diagnosed with mental health problems (49.13%), and those that were only treated with medications were more apt to have not been diagnosed with either mental health disorder or problems (22.02%). Over 97.89% of recruiters with 6 or more visits reported they were treated with medication, counseling, or a combination of both. Recruiters with 6 or more mental health visits were more likely to have had a combination of both medications and counseling (72.51%), in comparison to those that had between 4 and 5 visits who were more likely to have only received counseling (25.98%), and those with no visits who only received medications (26.91%).

Table 4.7: Prevalence of Treatments among US Army Recruiters, by need, 2011-2013.

	Total		None		Medication alone		Counseling alone		Medications and Counseling		
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**P-Value**
Total, all adults	2783	100.00	1235	44.47	466	16.78	361	13.00	715	25.75	
Need											
Mental Health Disorders (MHD)/Problems (MHP)											<0.0001
Have no MHDs or	1680	60.50	1172	69.76	370	22.02	90	5.36	48	2.86	
Has only MHDs	669	24.09	43	6.43	76	11.36	136	20.33	414	61.88	
Has only MHPs	173	6.23	19	10.98	13	7.51	85	49.13	56	32.37	
Has both MHDs and MHPs	255	9.18	*1	0.39	7	2.75	50	19.61	197	77.25	
Suicidal behaviors (suicide, suicidal ideation, non-suicidal self-injuries, and depressive episodes)											<0.0001
No behaviors	2413	86.89	1230	50.97	457	18.94	312	12.93	414	17.16	
Incident with one or more behaviors	364	13.11	*5	1.37	9	2.47	49	13.46	301	82.69	
Mental Health Visits											<0.0001
0-1 visits	981	35.33	682	69.52	264	26.91	18	1.83	17	1.73	
2-3 visits	776	27.94	430	55.41	153	19.72	92	11.86	101	13.02	
4-5 visits	358	12.89	109	30.45	39	10.89	93	25.98	117	32.68	
6 or more visits	662	23.84	14	2.11	10	1.51	158	23.87	480	72.51	

* Starred estimates are based on less than 5 observations and are thus unreliable.

Adjusted relationship between factors associated with the receipt of any treatment (no treatment vs. treatment: medications or counseling)

Treatments were significantly associated with recruiter characteristics in the first model of the multivariable adjusted analysis (Table 4.8). Middle-aged recruiters had slightly less odds of being treated with medications or counseling (OR 0.77). There were no other factors associated with treatments in the first model. Similarly, treatments remained significantly associated with recruiter characteristics and mental health visits in the second model of the multivariable adjusted analysis. Middle-aged recruiters (30-39 years, OR 0.78), Hispanic, and "Other" individuals (OR 0.74 and OR 0.84) had slightly less odds of being treated with medications or counseling. There were no other factors associated with treatments in the second model.

Adjusted relationship among recruiters who received treatment (medication, counseling, or combination of both)

Treatments were not associated with recruiter characteristics in the first model of the multivariable adjusted analysis (Table 4.9). Similarly, treatments were not associated with recruiter characteristics and the combined mental health disorders and problems variable in the second model of the multivariable adjusted analysis (Table 4.9).

Table 4.8: Adjusted Odds for No Treatment or Treatment (Medications and/or Counseling) among US Army Recruiters, 2011-2013.

Characteristic	Odds	95% CI		P value	Odds	95% CI		P value
Predisposing factors								
Gender				0.0001				0.0380
Female	1.82	1.34	2.48		1.52	1.02	2.27	
Age				0.0003				0.0406
18-29	0.56	0.40	0.79		0.61	0.40	0.94	
30-39	0.77	0.57	1.05		0.78	0.53	1.15	
40-older (referent)	0.00				0.00			
Marital Status				0.0093				0.0725
Single/Engaged (referent)	0.00				0.00			
Married	1.32	1.05	1.65		1.41	1.04	1.90	
Divorced	1.66	1.18	2.33		1.46	0.93	2.28	
Race				0.1228				0.0273
Non-Hispanic White (referent)	0.00				0.00			
Non-Hispanic Black	0.79	0.63	0.99		0.67	0.50	0.91	
Hispanic	0.85	0.68	1.07		0.74	0.54	1.00	
Other	0.85	0.60	1.19		0.84	0.54	1.30	
Course				0.3870				0.3273
Army Recruiting Course (referent)	0.00				0.00			
Other recruiting courses	0.91	0.73	1.13		1.14	0.87	1.50	
Component				<0.0001				0.0011
Active Duty Soldiers (referent)	0.00				0.00			
Activated Guard/Reservists	0.38	0.26	0.54		0.47	0.30	0.74	

Enabling characteristics								
Rank (Income)				0.2463				0.4470
SGT (referent)	0.00				0.00			
SSG	1.12	0.94	1.34		1.15	0.91	1.45	
SFC and MSG/1SG	0.86	0.62	1.19		0.93	0.61	1.41	
2LT and higher	1.03	0.69	1.56		1.25	0.76	2.05	
Need								
Mental Health Disorders (MHD)/Problems (MHP)								<0.0001
Have no MHDs or MHPs (referent)					0.00			
Has only MHDs					35.02	25.01	49.03	
Has only MHPs					18.45	11.27	30.20	
Has both MHDs and MHPs					577.18	80.69	>999.99	

Table 4.9: Adjusted Odds for Type of Treatment among Recruiters who received Treatment (Medication, Counseling, or Combination of Both), 2011-2013.

	Counseling Alone versus Medication Alone				Counseling Plus Medication versus Medication Alone			
Characteristic	**OR**	**LCI**	**UCI**	**P value**	**OR**	**LCI**	**UCI**	**P value**
Predisposing factors								
Gender				0.1293				0.1293
Female	0.77	0.40	1.45		1.30	0.72	2.36	
Age				0.1624				0.1624
18-29	2.12	1.04	4.29		1.92	0.96	3.84	
30-39	1.51	0.81	2.82		1.67	0.91	3.06	
40-older (referent)	0.00				0.00			
Marital Status				0.8371				0.8371
Single/Engaged (referent)	0.00				0.00			
Married	1.06	0.63	1.77		1.23	0.74	2.04	
Divorced	1.01	0.48	2.13		1.38	0.68	2.81	
Race				0.1092				0.1092
Non-Hispanic White (referent)	0.00				0.00			
Non-Hispanic Black	0.89	0.54	1.46		0.60	0.37	0.98	
Hispanic	0.79	0.48	1.29		0.55	0.34	0.91	
Other	0.73	0.33	1.59		0.83	0.39	1.75	
Course				0.2091				0.2091
Army Recruiting Course (referent)	0.00				0.00			
Other recruiting courses	0.68	0.43	1.08		0.90	0.57	1.40	
Component				0.2701				0.2701
Active Duty Soldiers (referent)	0.00				0.00			
Activated Guard/Reservists	1.62	0.71	3.68		0.92	0.37	2.27	

Enabling characteristics								
Rank (Income)				0.1653				0.1653
SGT (referent)	0.00				0.00			
SSG	0.88	0.59	1.30		0.97	0.66	1.43	
SFC and MSG/1SG	0.60	0.30	1.22		0.39	0.19	0.78	
2LT and higher	0.87	0.37	2.06		0.88	0.38	2.01	
Need								
Mental Health Disorders (MHD)/Problems (MHP)				<0.0001				<0.0001
Have no MHDs or MHPs (referent)	0.00				0.00			
Has only MHDs	8.56	5.83	12.5		48.31	32.14	72.62	
Has only MHPs	30.05	15.8	57.1		35.95	18.05	71.59	
Has both MHDs and MHPs	31.68	13.7	73.1		234.47	102.77	534.93	

CHAPTER FIVE

FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Introduction

Chapter 5 provides a brief review of the study along with conclusions drawn from findings presented in Chapter 4. Included in this chapter is a discussion of the implications of these findings for action as well as recommendations for further research. This chapter will be divided into sections that include (a) Summary of the study, (b) Findings, (c) Conclusions, (d) Implications, (e) Limitations and Assumptions, (f) Future research, and (g) Summary.

Summary of the Study

Restatement of the Problem:

Being a recruiter, unlike other occupational specialties, subjects them and their families to unique circumstances such as typically living in an area without a military community and the typical military supports (geographical dispersion), high stress, and demanding work, and for some, an short transition from post combat operations to a civilian environment, all with the potential to interact and adversely impact the Soldier's behavioral/psychological health status. The results of this combination of potential stressors have not yet been examined.

Following a six week training period at Fort Jackson, South Carolina, soldiers officially become recruiters. They are assigned to a recruiting center or somewhere in the U.S. where they and their family will live and from which the soldier will recruit. Recruiters are one of the most geographically dispersed groups in the military as they are strategically placed throughout the country, almost every metropolitan area, and regional rural locations. In many instances, soldiers are not stationed near military installations and consequently may be the only soldier in that general vicinity. For some soldiers, this

is an attractive prospect, but for many soldiers, this is often the first time they and/or their families will live away from the typical support systems found on or near military installations (i.e. community resources, certain medical care, or adequate mental health care resources to treat certain issues that are combat related). In other instances, recruiters may have to become geographical bachelors, or report to their duty stations without being able to take their families with them due to specific regulations or other unavoidable family factors (i.e. loss of a spouse's job, etc.). Communities where recruiters are stationed vary in their support of the military and its recruiting mission. Many recruiters experience positive support, appreciation, and reception from the communities in which they live. In other communities, some recruiters also experience hostility, protest, discrimination, and alienation which can create its own stress and/or other undue hardships on the recruiter and/or their families.[109]

The first few months as recruiters tend to be the most challenging for many recruiters as they begin to live the reality of this unique job and meeting recruitment mission requirements. For many recruiters, this is the first time where they are required to work independently without passive supervision, and can increase the opportunities for misconduct. There is an intense learning curve that comes with the position and many recruiters often experience a loss of confidence or feel less competent.[110]

Many new recruiters tend to be transitioning from units that have served regular rotations to either Iraq and or Afghanistan. In turn, some of the recruiters that have recently redeployed are still experiencing readjustment issues or experiencing the after-

[109] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[110] Joiner, 22.*

effects of combat service. In turn, this quick post-combat transition, coupled with the multiple stressors of recruiting, and lack of normal support systems to which soldiers are accustomed can increase the potential for adverse mental health outcomes for the recruiters and/or their family. [111, 112]

Restatement of Research Questions/Hypotheses: As my study was focused on examining the factors affecting Army recruiters' mental health, my research questions were designed determine the prevalence (frequencies/percentages) of recruiters diagnosed with no mental health disorders or mental health problems, those with only mental health disorders (at least one or more), those with only mental health problems (at least one or more), those with both mental health disorders and problems, and ascertain how these compared to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center. I hypothesized that the prevalence of mental health disorders and mental health problems among recruiters would be significantly less in comparison to the frequencies and percentages identified in the study by the Armed Forces Health Surveillance Center due to stringent mental health screening processes required to become a recruiter. In addition, my research questions were designed determine what the most prevalent mental health disorder categories and mental health problem categories (in terms of frequencies and percentages) were among the recruiting population in comparison to those identified in the study by the Armed Forces Health Surveillance Center. I hypothesized that the most prevalent mental health disorder categories and mental health problem categories among the recruiting population were similar in

[111] Harrell, M. C., & Berglass, N. (2011). *Losing the Battle, the Challenge of Military Suicide.* Washington, D.C.: Center for New American Security.
[112] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military.* Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

comparison to those identified in the study by the Armed Forces Health Surveillance Center. Moreover, my research questions were also designed to determine the prevalence of mental health treatments (no treatment, medications only, counseling only, and both medications and counseling) among the recruiting population and compare these with the frequencies and percentages identified in the study by McKibben et al. (2013). I hypothesized that prevalence of mental health treatments in the recruiting population as similar to those identified in the study by McKibben et al. (2013).

Synopsis of the Literature Review: The literature review examined some of the mental health disorder-specific diagnoses and mental health problems within the military, particularly within Army recruiting populations. In addition, it reflected a brief historical overview of the Iraq and Afghanistan campaigns and how these have impacted the morbidity, disability, attrition, costs, and health care utilization rates associated with U.S. military service members. The literature review also reflected some of the current screening programs used to evaluate service members and mental health care treatment options that are currently available. Furthermore, the literature review examined the most significant research published regarding the problem, particularly the study by the Armed Forces Health Surveillance Center (AFHSC), which was perhaps one of the most significant and extensive studies publically available concerning mental disorders and mental health problems in the military.[113] Lastly, the literature review reflected theories and models that were relevant to the problem, particularly Andersen's (2008) *Health*

[113] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.

Model of Health Care Utilization and the *Stress-Response Process Model* by Sinclair and Tucker (2006).[114,115]

Review of Population/Sample: Approximately 100 soldiers attend the Army Recruiter Course (ARC) at the Recruiting and Retention School (RRS) on Fort Jackson, South Carolina on a weekly basis. Between 50 and 100 other soldiers attend other recruiting related training courses at the RRS as they increase in rank and responsibility. Between 1,500 and 3,000 students (depending on the U.S. Army's needs for recruiters) attend the RRS on an annual basis.

Recruiters typically fall into one of three groups: 1) Active duty recruiters with a military occupation specialty (MOS) of 79R are recruiters who converted or chose to become permanent recruiters; 2) Department of the Army (DA) selected recruiters who are a combination of volunteers and those selected by the DA of the Army from a variety of career fields to serve as recruiters; and 3) Active Guard/Reserve (AGR) recruiters who are reservists who volunteer to become professional recruiters as a result to become the AGR program. Other soldiers assigned to the recruiting command provide command and control support services and have a varying levels of selection. Battalion and brigade commanders are typically selected by a board and rank ordered and not evaluated for suitability. Company commanders and other staff officers are subject to a review similar to the recruiter suitability assessment. Other enlisted personnel, unless they are a sexual assault prevention program manager, equal opportunity manager, or non-commissioned

[114] Andersen, R. M. (2008). National Health Surveys and the Behavioral Model of Health Services Use. *Medical Care, 46* (7), 647-653.
[115] Sinclair, R. R., & Tucker, J. S. (2006). Stress-Care: An Intregrated Model of Individual Differences In Soldier Performance Under Stress. In T. W. Britt, C. A. Castro, & A. B. Adler (Eds.), *Military Life: The Psychology of Serving in Peace and Combat* (Vol. 1, pp. 202-231). Westport, CT: Praeger Security International.

officer for the Inspector General, are not subject to review. Although the mission of AGR recruiters is to primarily recruit for the reserves, all recruiting stations now recruit as a team and do not distinguish mission. Furthermore, successful DA selected recruiters are aggressively encouraged or choose to convert to become permanent recruiters.[116] DA selected recruiters (approximately 82% of the total) come from a variety of military occupational specialties or MOS's. They are generally considered to be exceptionally responsible individuals who are capable of functioning independently and able to manage the multiple demands and responsibilities required of recruiters. Those soldiers selected for recruiting are typically mid-career to senior-level non-commissioned officers (NCOs) in the rank of Staff Sergeant (E-6) or above. However, it is not unusual for lower ranking soldiers such as Sergeants (E-5) to be selected for recruiting duty. DA selected recruiters tend to be extremely knowledgeable in their respective areas of expertise (i.e. Infantry, Field Artillery, Medics, Mechanics, etc.), have had leadership positions, and are considered to be among the top of their career fields.[117]

In order to attend the various courses, such as the Army Recruiting Course, the Center Commanders Course, or the Career Counselor Course at the Recruiting and Retention Center (RRS), soldiers are required to meet a few criteria prior to enrolling. Soldiers must be at least 18 years of age and be able to speak English. There are no gender restrictions for any of the RRS courses. For DA selected soldiers (or recruiter candidates), a mental health suitability assessment (BHSA) is required. After arrival at the RRS, but before classes begin, they must also have a mental health screening exam

[116] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[117] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

(as discussed in Chapter 2). The exceptions are the Brigade and battalion commanders who are selected by senior Army leaders based on merit. They are only subject to the behavioral health screen after arrival at their courses. All DA selected recruiters candidates must have a mental health suitability assessment completed by a credentialed U.S. Army mental health provider (psychiatrist, psychologist, or physician) no earlier than six months prior to attending the Army Recruiting Course. With the exception of course for new commanders, all other courses have recruiters as students. They too are only subject to a mental health screening (Figure 3.1). This BHSA generally prevents students from attending the course if they have currently diagnosed mental disorders or medical problems that would hinder their ability to complete the course and fulfill their role as a recruiter. There are no exemptions. The exclusionary criteria include any Axis I or III diagnoses (i.e. acute psychosis) or the presence of a severe medical issue (i.e. severe traumatic brain injury), have been diagnosed but not engaged in treatment or is not one year post treatment. If the disorder is a substance abuse disorders, they may not be considered for recruiting duty until three years post treatment or five years after a an adverse incident such as a DUI. All students regardless of rank are subject to the Health and Wellness Questionnaire after arriving at the course. Those identified as being at risk for a psychiatric, behavioral health, or psychosocial problem are then seen individually by a behavioral health provider to determine fitness for recruiting duty.[118]

Review of the Response Rate: Approximately 4,444 students (from all of the courses) were provided the opportunity to participate in USAREC's, FSU's, and Harvard's study

[118] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.

and complete the *Stress and Mental Strain Survey* (SAMSS). Students consisted of regular active duty soldiers and activated Guard/Reservist that were either recruiters or recruiting candidates. Data was collected from participants at the RRS from October 4, 2011 to July, 7, 2013. Of those offered participation in the study, 2,792 (62.83%) students chose to participate in the study, complete the SAMSS, and had their AHLTA reviewed. Variable examined in their AHLTA records included their demographic characteristics (i.e. gender, age, marital status, race, rank, RRS course they were attending, and Army component) and other characteristics reflecting their medical and mental health histories (i.e. mental health disorder and problem diagnoses, suicidal behaviors, treatment, and mental health visits).

Findings

Mental health disorder and problem category frequencies among recruiters in comparison with the AFHSC population: There were 924 (33.20%) incident diagnoses of at least one mental health disorder among the 2,783 recruiters in the study (Table 4.2) in comparison to 936,283 incident diagnoses of at least one mental health disorder (52.20%) among the 1,793,506 service members in the AFHSC study (Table 4.2). Over half of all mental health disorder diagnoses among the recruiting population (54.69%) were attributable to "other mental health disorders" (n=535; 19.22%), adjustment disorders (n=428; 15.38%), depressive disorders (n=229; 8.23%), anxiety disorder (n=228; 8.19%) and post-traumatic stress disorder (n=102; 3.67%). Other diagnoses such as alcohol abuse (n=82; 2.95%), personality disorders (n=9; 0.32%), and substance abuse (n=5; 0.18%). In comparison, the majority (85%) of all mental health disorder diagnoses in the AFHSC study were attributable to adjustment disorders

(n=471,833; 26.3%), “other mental disorders” (n=318,827; 17.8%), depressive disorders (n=303,880; 16.9%), alcohol abuse and dependence related disorders (n=232,625; 13.0%), and anxiety disorders (n=187,918; 10.5%). Other diagnoses attributable to PTSD (n=102,549; 5.7%), substance abuse and dependence related disorders (n=73,623; 4.1%), and personality disorders (n=81,223; 4.5%) were substantially less in comparison. In addition, there were 428 (15.38%; Table 4.2) incident diagnoses of at least one mental health problem among the 2,783 recruiters that participated in the study, while there were 425,489 (23.72%) incident diagnoses of at least one mental health problem among the 1,793,506 service members in the AFHSC study.

Less than one-fifth of all mental health problem diagnoses among the recruiting population (17.86%) were attributable to partner relationships (n=253; 9.09%), life circumstances (n=125; 4.49%), and family circumstance (n=119; 4.28%). In comparison, approximately 70% of all mental health problems diagnoses in the AFHSC population were attributed to life circumstances (n=194,869; 45.8%) or partner relationships (n=98,492; 23.1%) such as a return from a military deployment, bereavement, or difficulties with acculturation. Other diagnoses attributable to mental, behavioral health problems, or substance abuse counseling (n=71,943; 16.91%) and family circumstance (n=38,485; 9.05%) were substantially less in comparison.

Prevalence of mental health disorders and problems among recruiters: Over 39% of recruiters were diagnosed with at least one mental health disorder, one mental health problem, or a combination of both (Table 4.3). Approximately one in every four recruiters was diagnosed with only having at least one mental health disorder (24.08%),

with an additional 6.22% being diagnosed with at least one mental health problem, and 9.16% being diagnosed as having at least one mental health disorder and one mental health problem. Females (50.22%), divorced soldiers (48.50%), individuals in the Army Recruiting Course (41.19%), regular active duty-soldiers (40.46%), and staffs-sergeants (41.71%) were more likely to be diagnosed with at least one mental health disorder, one mental health problem, or a combination of both.

In comparison, the researchers in the AFHSC study reported that the rates of mental disorder diagnoses were higher among females, with rates of adjustment and personality disorders being more than twice as high among women. Rates of anxiety and depressive disorders were between 1.4 and 1.9 times higher among women. Incident rates of diagnoses also decreased with age, with rates of adjustment, PTSD, personality, "other" mental disorders, schizophrenia and other psychoses being higher among those in the younger age category (<20 years old). Rates of alcohol/substance abuse were higher among those between 20 and 24 years of age, while rates of anxiety disorders and depression were higher among those between 25 and 29 years of age. The authors indicated that rates of mental disorders were higher in the Army in comparison to other branches of services, with the Army having the highest rates for every mental disorder category except schizophrenia.

Mental health disorders, problems, and need factors among recruiters: One in every seven recruiters reported having at least one incident involving a suicidal behavior (13.11%; Table 4.4). Recruiters who reported suicidal behaviors (at least one incident or more) were more likely among those diagnosed with having at least one mental health

problem (62.91%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (34.34%); in contrast, those who reported suicidal behaviors were less likely to have been diagnosed with one mental health problem or more (0.82%). Recruiters diagnosed with at least one mental health disorder, one mental health problem, or a combination of both were more likely to be treated with a combination of medications and counseling (93.29%). Over one-half of recruiters that received a combination of medication and counseling treatments were diagnosed with having at least one mental health problem (57.90%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (27.55%); in contrast, those who reported treatment with medications and counseling were less likely to have been diagnosed with one mental problem or more (7.83%). Recruiters that were diagnosed with at least one mental health disorder, one mental health problem, or a combination of both were more likely to have had 6 or more mental health visits (91.39%). Recruiters with 6 or more visits were more apt to have been diagnosed with having at least one mental health problem (51.81%) and those diagnosed with the combination of having at least one mental health disorder and one mental health problem (30.66%); in contrast, those with 6 or more visits were less likely to have been diagnosed with one mental health problem or more (8.91%).

Adjusted relationship between recruiters, mental health disorders, and mental health problems: Married recruiters (OR 1.12) had slightly higher odds of being diagnosed with a mental health disorder or problem in the multivariate analysis examining recruiting characteristics (Table 4.5). Middle-aged recruiters (30-39 years,

OR 0.83) had slightly less odds of being diagnosed with a mental health disorder or problem in the same multivariate analysis.

Prevalence of treatment among recruiters: Over one-half of recruiters received some form of mental health treatment (55.53%; Table 4.6). Recruiters were more apt to have had the combination of being prescribed medications and received counseling (25.75%) in comparison to those who were only prescribed medications (16.78%), and only received counseling (13.00%). Females (66.07%), older recruiters (40 and above; 66.07%), divorced recruiters (63.52%), soldiers in the Army Recruiting Course (55.56%), regular active duty (56.79%), and staff sergeants (58.00%) were more apt to have had treatment by medications, counseling, or combination of both.

Treatment and other need factors: Almost all recruiters were reported at least one suicidal behavior received some form of treatment (98.63%; Table 4.7). Recruiters who reported suicidal behaviors (at least one incident or more) were more likely to have been treated with a combination of medications and counseling (82.69%) and only having received counseling (13.46%), but less likely to have only have been treated with medications (2.47%). Similarly, most recruiters diagnosed with at least one mental health disorder received some form of treatment (93.57%). Over three-quarters of recruiters that received the combination of both medications and counseling (77.25%) were diagnosed with having both mental health disorders and mental health problems, while those who only received counseling were more likely to have only been diagnosed with mental health problems (49.13%), and those that were only treated with medications

were more apt to have not been diagnosed with either mental health disorder or problems (22.02%). Over 97.89% of recruiters with 6 or more visits reported they were treated with medication, counseling, or a combination of both. Recruiters with 6 or more mental health visits were more likely to have had a combination of both medications and counseling (72.51%), in comparison to those that had between 4 and 5 visits who were more likely to have only received counseling (25.98%), and those with no visits who only received medications (26.91%).

Adjusted relationship between factors associated with the receipt of any treatment (no treatment vs. treatment: medications or counseling): Middle-aged recruiters had slightly less odds of being treated with medications or counseling (OR 0.77) in the first model of the multivariable adjusted analysis which only examined recruiters characteristics. Middle-aged recruiters (30-39 years, OR 0.78), Hispanic, and "Other" individuals (OR 0.74 and OR 0.84) had slightly less odds of being treated with medications or counseling in the second model of the multivariable adjusted analysis which examined recruiters characteristics and mental health visits.

Conclusions

Analysis indicated that the first hypothesis was correct regarding the prevalence of mental health disorders being lower among recruiters in comparison to the AFHSC population (Table 4.2). There were 924 (33.20%) incident diagnoses of at least one mental health disorder among the 2,783 recruiters in the study (Table 4.2) in comparison to 936,283 incident diagnoses of at least one mental health disorder (52.20%) among the 1,793,506 service members in the AFHSC study (Table 4.2).

The prevalence of mental health disorders were less for recruiters among all categories with the exception of *Other Mental Health Disorders*. Similarly, the prevalence of mental health problems was lower among recruiters in all categories in comparison to the AFHSC population. There were 428 (15.38%; Table 4.2) incident diagnoses of at least one mental health problem among the 2,783 recruiters that participated in the study, while there were 425,489 (23.72%) incident diagnoses of at least one mental health problem among the 1,793,506 service members in the AFHSC study.

In contrast, analysis of the findings indicated that the second hypothesis was incorrect as the most prevalent mental health disorders and mental health problems categories among the recruiting population were not similar those identified in the study by the AFHSC (Table 4.2).

Over half of all mental health disorder diagnoses among the recruiting population (54.69%) were attributable to "other mental health disorders" (n=535; 19.22%), adjustment disorders (n=428; 15.38%), depressive disorders (n=229; 8.23%), anxiety disorder (n=228; 8.19%) and post-traumatic stress disorder (n=102; 3.67%). Other diagnoses such as alcohol abuse (n=82; 2.95%), personality disorders (n=9; 0.32%), and substance abuse (n=5; 0.18%). In comparison, the majority (85%) of all mental health disorder diagnoses in the AFHSC study were attributable to adjustment disorders (n=471,833; 26.3%), "other mental disorders" (n=318,827; 17.8%), depressive disorders (n=303,880; 16.9%), alcohol abuse and dependence related disorders (n=232,625; 13.0%), and anxiety disorders (n=187,918; 10.5%). Other diagnoses attributable to PTSD (n=102,549; 5.7%), substance abuse and dependence related disorders (n=73,623; 4.1%), and personality disorders (n=81,223; 4.5%) were substantially less in comparison.

Less than one-fifth of all mental health problem diagnoses among the recruiting population (17.86%) were attributable to partner relationships (n=253; 9.09%), life circumstances (n=125; 4.49%), and family circumstance (n=119; 4.28%). In comparison, approximately 70% of all mental health problems diagnoses in the AFHSC population were attributed to life circumstances (n=194,869; 45.8%) or partner relationships (n=98,492; 23.1%) such as a return from a military deployment, bereavement, or difficulties with acculturation. Other diagnoses attributable to mental, behavioral health problems, or substance abuse counseling (n=71,943; 16.91%) and family circumstance (n=38,485; 9.05%) were substantially less in comparison.

Despite being lower than those in the AFHSC study, the prevalence of recruiters being diagnosed with at least one mental health disorder, mental health problem, or combination of both (39.00%) was still extremely high in comparison to other studies examining civilians or service members. According to report by the Congressional Research Service, the estimated 12-month prevalence of mental health disorders and mental health problems (excluding those regarding substance use disorders) was 18.6% among adults aged 18 or older (Bagalman & Napili, 2014).[119] Similarly, a study by Hoge et al. (2006) found that 18.4% of active component service members, 21.0% of National Guard members, and 20.8% of Reserve component members screened positive for at least one mental health issues (compared with 40.46% among regular active duty recruiters and 21.49% among Guard/Reservists).[120]

[119] Bagalman, E., & Napili, A. (2014). *Prevalence of Mental Illness in the United States: Data Sources and Estimates.* Washington, D.C.: Congressional Research Service.
[120] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan. *The Journal of the American Medical Association , 295* (9), 1023-1032.

Moreover, several studies suggest that this study's reported levels might actually even underestimate the actual prevalence of mental health disorders and problems among recruiters. The study by Hoge et al. (2006) reported that roughly one-third of combat veterans utilized mental health services within the first year following redeployment, but that only12% were diagnosed with a mental health disorder or problem. [121] In addition, they reported that 23% of service members in their study were also seen in mental health clinics but did not receive a diagnosis, suggesting that the actual rates of mental disorders and mental health problems among service members may in fact be higher than those that are reported. They suggested that this discrepancy regarding the rates of reported mental health issues among service members returning from deployment might be occurring due to the use of less descriptive diagnostic codes in order to reduce the stigma of receiving a mental diagnosis, a common occurrence within the military. In addition, they suggested that the prevalence levels among service members don't account for other sources of care that are not documented in the department of defense data analyses, such as such chaplains, employee or family assistance programs, or during visits for other primary care health concerns.

This concept of underestimating the actual prevalence of service members diagnosed with mental disorders, problems, or a combination of both was also reflected upon in the Armed Forces Health Surveillance Center (AFHSC) study. [122] According to the researchers, their study was heavily reliant on data collected from the Department of Defense's AHLTA system which compiles medical encounters from military medical

[121] Hoge, 24.*
[122] Armed Forces Health Longitudinal Technology Application. (2014). *Armed Forces Health Longitudinal Technology Application*. Retrieved February 20, 2014, from Armed Forces Health Longitudinal Technology Application: http://www.ahlta.us/

facilities for every soldier when on active duty (including regular active duty soldiers, Guard/Reservists, and National Guard soldiers) in each of the military service components (i.e. Army, Marines, Navy, Air Force, Coast Guard, etc.). This particular record system allows providers to observe medical and mental health conditions of interest by utilizing ICD and DSM definitions. Hence, they indicated that the prevalence of mental disorders and mental health problems reflected in their study were primarily determined from reported these diagnoses in AHLTA. According to the AFHSC, such records are not always reliable indicators of the rates and types of mental disorders and mental health problems that impact military members. The authors suggested that these results from AHLTA are likely to underestimates of service members affected. AHLTA does not include care purchased outside the MTF or those paid for by the soldiers directly. Furthermore, the study by the AFHSC implied that mental health disorders and mental health problems are often not properly diagnosed, are accidentally miscoded, or omitted on soldiers' health care records, further impacting the actual rates affecting military personnel. Lastly, the report from the AFHSC proposed that the accuracy of estimates regarding the numbers, natures, and rates of mental health disorders and mental health problems are also heavily dependent on the clinical setting in which diagnoses of interest were made (i.e., hospitalization, relevant specialty clinic), the frequency and timing of indicator diagnoses, and the priority with which diagnoses of interest were reported (i.e., first-listed versus subsequent reported diagnoses).[123]

[123] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.

Nevertheless, even if the prevalence of mental health disorders and problems were underestimated among recruiters, the rates were still markedly higher among most studies reflecting service members and when compared with civilian baseline rates.[124,125] Analysis of the findings regarding treatment indicates that the third hypothesis was also incorrect regarding the prevalence of mental health treatment in the recruiting population being similar to the levels in the study by McKibben et al. (2013). The prevalence of individuals whom received treatment and were only provided counseling or therapy services was higher among recruiters (30.22% vs. 21.00%; not shown in table). In contrast, the prevalence of individuals with treatment that received two or more mental health services (44.76% vs. 48.00%; not shown in table) was less among recruiters. In addition, the prevalence of individuals treated with only medications or in combination of both medication and counseling was higher among recruiters (76.59% vs. 11.00%; not shown in table).

Overall, these findings suggest that recruiters who were diagnosed with mental health disorders and/or mental health problems were receiving appropriate levels of medication, counseling, and/or the combination of both when required. Over half of recruiters received some form of mental health treatment (55.53%). Recruiters diagnosed with at least one mental health disorder, one mental health problem, or combination of both were more likely to be treated with a combination of medications and counseling (93.29%). Similarly, those diagnosed with at least one mental health disorder, one mental health problem, or combination of both were more likely to have had 6 or more

[124] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan. *The Journal of the American Medical Association , 295* (9), 1023-1032.
[125] Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. I. (2004). Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care. *The New England Journal of Medicine , 351* (1), 13-22.

visits (91.39%). In addition, recruiters that reported suicidal behaviors (at least one incident or more) were more likely to have been treated with a combination of medications and counseling (82.69%), suggesting appropriate care.

These findings actually contrast several civilian and military studies which suggest that individuals who met the screening criteria for a mental disorder or problem don't always receive adequate treatment, whether medications, counseling, or a combination of both.[126,127] According to a study by Want et al. (2002), inadequate treatment of serious mental health disorders is a significant public health problem.[128] The researchers found that 40.00% of individuals within their population were diagnosed with serious mental health illnesses during the previous year. However, they reported that only 38.09% of those who had received treatment had care that was considered adequate.

Implications

These findings reinforce previous reports documenting increases in the prevalence of mental health disorders and mental health problems among service members, particularly among U.S. Army recruiters. In addition, these findings reiterate the urgent need to increase the availability of mental health care services for service members diagnosed with such disorders or problems, particularly for those facing the additional hardships and stressors accompanying a recruiter's occupation. The U.S. Army, like most military departments, often lacks adequate levels of mental health personnel needed to address such demands. According to a study by Harrell and Berglass (2011), the U.S.

[126] Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. I. (2004). Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care. *The New England Journal of Medicine , 351* (1), 13-22.
[127] Kessler, R. C., Demler, O., Frank, R. G., Olfson, M., Pincus, H. A., Walters, E. E., et al. (2005). US Prevalence and Treatment of Mental Disorders: 1990–2003. *New England Journal of Medicine , 352* (24), 2515–2523.
[128] Wang, P. S., Demler, O., & Kessler, R. C. (2002). Inadequate Treatment of Serious Mental Illness is an Enormous Public Health Problem. *American Journal of Public Health , 92* (1), 92-98.

Army only has 80% of the psychiatrists, 88% of the social workers, 88% mental health nurses, and 93% of the psychologists that it is recommended to have.[129] The U.S. Department of Veterans' Affairs (VA) also faces similar shortages in mental health care providers, with over 16 regions being unmanned at recommend levels.[130] Thus, to truly remedy this issue, the Department of Defense and Department of Veterans' Affairs will have to increase their efforts to employ more personnel and increase mental health resources in order to address the rising prevalence of mental health issues among service members and provide care to those who seek it.

Moreover, these findings suggest that the Army mental health care services should readjust their methods of detection and treatment of mental health disorders and problems. For instance, if recruiters have a more stringent mental evaluation than others and over 39% that were passed mental screening processes were still diagnosed with a at least one mental health disorder, mental health problem, or combination of both, this suggests that the U.S. Army may need to implement another or redefine its current mental health screening policies for recruiters and recruiting candidates prior to attending any Recruiting and Retentions Course. Specifically, it would be in the best interest of the Army and soldiers to develop and implement a system that coordinates a duty station that is near multiple medical and mental health resources for individuals that have been previously diagnosed with a major DSM diagnoses in order to ensure their best possible success and timely care from local providers. Moreover, as noted in FSU's study, people that are diagnosed with a major mental health disorder (i.e. major depressive disorder) are

[129] Harrell, M. C., & Berglass, N. (2011). *Losing the Battle, the Challenge of Military Suicide.* Washington, D.C.: Center for New American Security.
[130] Department of Veterans Affairs. (2008). *Veterans Health Administration Handbook: 1160.01*. Washington, D.C.: Department of Veterans Affairs.

more likely to have a recurrent episode of that particular disorder in comparison to someone who was never diagnosed with such DSM diagnoses. Hence, it is recommended that the U.S. Army develop and implement a mental health follow-up program where the mental health progress of recruiters (particularly for those at risk and have been previously diagnosed with a major DSM diagnoses or mental health disorder) is periodically (i.e. 12 months after starting their new role) assessed to determine how they are adjusting in their new positions and communities.[131]

The U.S. Army needs to continue their Anti-stigma campaign to reduce the stigma associated with mental health care in the military.[132] One of the primary obstacles for the U.S. Army (and other military service branches) regarding the mental health of its soldiers reflects the cultural stigma attached to mental health care in the military. This stigma often prevents soldiers from seeking services to address mental health care issues. However, the health and survival of soldiers is pertinent on the removal of this stigma. In addition, military leaders have not consistently disciplined soldiers who belittle or ridicule other members with mental health issues, further adding to the existing problem.[133] Findings from the study indicated that one in five participants (n=508; 18.25; not in any table) that were not diagnosed with either a mental health disorder or mental health problem received treatment through medications, counseling or a combination of both, suggesting that people are seeking and obtaining treatment from external military facilities in order to possibly avoid the stigma that accompanies Army mental healthcare

[131] Joiner, T., Diamond, B., Lim, I., Bender, T., & Knight, C. K. (2012). *Optimizing Screening and Risk Assessment for Suicide Risk in the U.S. Military*. Headquarters, U.S. Army Medical Corp, U.S. Army. Detrick: U.S. Army Research and Materiel Command.
[132] Lim, I. (2014, September 15). Office of the Army Surgeon General G3/5/7, Health and Wellness. (C. K. Knight, Interviewer)
[133] U.S. Army. (2012). *Army 2020: Generating Health and Discipline in the Force Ahead of the Strategic Reset.* Washington, D.C.: U.S. Army.

clinics. Army leaders must make a more concerted effort to eliminate the stigma associated with mental health care. If possible, these policies and strategies should be revised to include holding unit leaders and soldiers accountable for instances in which individuals are ridiculed for seeking mental health care treatments.

Limitations and Assumptions

All of the data collected in the study reflected recruiters and potential recruiting candidates who were students at the RRS, particularly people that volunteered to participate in the study between October of 2011 and July of 2013. In addition, data collected did not reflect veterans (individuals no longer in the military), but rather regular active duty soldiers or those that had been activated to become recruiters (i.e. Guard/Reservists). Due to the unique sample available for the study, results may not be generalizable beyond the specific active duty military population from which the sample was drawn.

In addition, this study relies heavily on data collected from the Department of Defense's AHLTA system, similar to the study by the AFHSC.[134] Hence, a limitation to this study was that incident cases of mental disorders and mental health problems reflected in the study were also primarily determined from reported mental health disorders and problems. As noted by the AFHSC study, such records are not always dependable indicators reflecting the rates and types of mental disorders and mental health problems impacting service members as they can underestimate the extent that service members are actually affected. In addition, these records do not account for external military health care services (i.e. primary care providers, chaplains, family assistance

[134] Armed Forces Health Longitudinal Technology Application. (2014). *Armed Forces Health Longitudinal Technology Application*. Retrieved February 20, 2014, from Armed Forces Health Longitudinal Technology Application: http://www.ahlta.us/

programs, or services rendered while deployed).[135,136] Similar to the AFHSC study, the levels of reported mental disorders and mental health problems could have also been improperly diagnosed, accidentally miscoded, or even omitted on soldiers' health care records, further skewing the actual rates affecting military personnel. Furthermore, the accuracy of the estimates in the study regarding the numbers, natures, and rates of mental health disorders and mental health problems, similar to the AFHSC study, were also heavily dependent on the clinical setting in which diagnoses were made (i.e., hospitalization, relevant specialty clinic), the frequency and timing of indicator diagnoses, and the priority with which diagnoses of interest were reported (i.e., first-listed versus subsequent reported diagnoses). In turn, these factors could have also skewed the actual prevalence of mental health disorders and mental health problems affecting recruiters in the study.[137]

Future Research

The findings have important implications for estimating the level of mental health services that may be needed in military, Veterans Affairs, and civilian practice settings that care for service members, particularly recruiters. Additional research is needed to determine the long-term burden that these mental health disorders and problems will have

[135] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.
[136] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan. *The Journal of the American Medical Association , 295* (9), 1023-1032.
[137] Armed Forces Health Surveillance Center. (2010). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, January 2000-December 2009. *Medical Surveillance Monthly Report , 17* (11), 6-13.

on these recruiters diagnosed with them, the mental health care system, and viability of the United States Recruiting Command.[138]

In addition, future research is needed to clarify the adequacy of treatment regarding mental health disorders and mental health problems in the military population, particularly among subpopulations such as recruiters.

Summary

Recruiters are exposed to unique circumstances that other soldiers do not generally experience including living in a community without the typical military support systems, geographical dispersion, high stress and demanding work, and for some a short transition from post-combat operations to a civilian environment. All of these factors have the potential to interact and adversely impact the recruiter's mental health status. Given the previously discussed circumstances, the recent increase in mental health issues in the military as a whole, and in USAREC specifically, this study sought to determine the prevalence and severity of mental health disorders and mental health problems among the recruiting population and types of treatments they were receiving through the use of their AHLTA records.

The findings from this study determined the prevalence of mental health disorders and mental health problems, were different and lower than those reported in the AFHSC study, but were still significantly higher in comparison the findings identified in similar

[138] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan. *The Journal of the American Medical Association , 295* (9), 1023-1032.

studies reflecting the prevalence of such disorders and problems among military and civilian personnel.[139]

In addition, findings from this study indicated that types of mental health treatment rendered to the recruiting population contrasted similar studies regarding military or civilian personnel which reported inadequate care among its populations.[140] In turn, findings suggested that recruiters diagnosed with mental health disorders and/or mental health problems were receiving appropriate levels of medication, counseling, and/or the combination of both when required. Recruiters diagnosed with at least one mental health disorder, one mental health problem, or combination of both were more likely to have had 6 or more visits, suggesting that adequate mental health resources were available and being utilized by those whom sought it. In addition, recruiters that reported suicidal behaviors (at least one incident or more) were more likely to have been treated with a combination of medications and counseling, again suggesting adequate and appropriate levels of mental health treatment for soldiers with such issues.

The findings from this study are significant in that they can be used to gauge the level of mental health services that are needed in military and civilian practice settings that care for service members such as recruiters. However, these findings also suggest that there are still several barriers in mental health care that need to be researched and addressed in order for all soldiers with such issues to be accurately identified and receive the adequate care that they truly deserve.

[139] Armed Forces Health Surveillance Center. (2012). Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report , 19* (6), 11-17.
[140] Armed Forces Health Surveillance Center, 16.*

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Appendix A: *Definition of Key Terms*

The following definitions are provided to ensure uniformity and understanding of these terms throughout the study. The researcher developed all definitions not accompanied by a citation.

USAREC: United States Army Recruiting Command

RRC: Recruiting and Retention Center

AHLTA and *CHCS*: The Armed Forces Health Longitudinal Health Technology Application (formerly known as the Composite Health Care System or CHCS II) is an electronic medical record (EMR) system used by Department of Defense (DoD) medical, mental health, and dental providers and provides them access to data regarding soldiers' conditions, prescriptions, diagnostic tests, and other essential information required to provide quality care.[141]

Diagnostic and Statistical Manual of Mental Disorders (DSM): The Diagnostic and Statistical Manual of Mental Disorders is published by the American Psychiatric Association, offers a common language and standard criteria for the classification of mental disorders, and is utilized by clinicians (medical and mental health), researchers, psychiatric drug regulation agencies, health insurance companies, pharmaceutical companies, the legal system, and policy makers together with alternatives such as the International Statistical Classification of Diseases and Related Health Problems (ICD) to diagnose mental disorders and mental health problems.[142]

International Statistical Classification of Diseases (ICD): The International Statistical Classification of Diseases is a health care classification system that was designed by the World Health Organization which provides a system of diagnostic codes for classifying diseases, including signs, symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or disease.[143]

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[141] Armed Forces Health Longitudinal Technology Application. (2014). *Armed Forces Health Longitudinal Technology Application*. Retrieved February 20, 2014, from Armed Forces Health Longitudinal Technology Application: http://www.ahlta.us/

[142] American Psychiatric Association. (2014). *American Psychiatric Association DSM-5 Development*. Retrieved February 20, 2014, from DSM-5 Implementation and Support: http://www.dsm5.org/Pages/Default.aspx

[143] World Health Organization. (2014). *Classifications*. Retrieved February 20, 2014, from International Classification of Diseases (ICD): http://www.who.int/classifications/icd/en/

Appendix B: Stress and Mental Strain Survey (*Acquired Capability for Suicide Scale (ACSS))*

Please read each item below and indicate to what extent you feel the statement describes you. Rate each statement using the scale below and indicate your responses on your answer sheet.

0	1	2	3	4
Not at all like me				Very much like me

_____ 1. Things that scare most people do not scare me.

_____ 2. I can tolerate more pain than most people.

_____ 3. People describe me as fearless.

_____ 4. I am not afraid to die.

Agitation Index

Please use the rating scale to find the number that best matches how you feel for each of the items below. Please base your responses on how you've been feeling recently.

1	2	3	4	5	6	7
Not at all true for me			Somewhat true for me			Very True for me

5. I want to crawl out of my skin.

6. I feel so stirred up inside I want to scream.

7. I feel a lot of emotional turmoil in my gut.

DSI-SS

8. 0 I do not have thoughts of killing myself
   1 Sometimes I have thoughts of killing myself.
   2 Most of the time I have thoughts of killing myself.
   3 I always have thoughts of killing myself.

9. 0 I am not having thoughts about suicide.
   1 I am having thoughts about suicide but have not formulated any plans.
   2 I am having thoughts about suicide and am considering possible ways of doing it.
   3 I am having thoughts about suicide and have formulated a definite plan.

10. 0 I am not having thoughts about suicide.
    1 I am having thoughts about suicide but have these thoughts completely under my control.
    2 I am having thoughts about suicide but have these thoughts somewhat under my control.
    3 I am having thoughts about suicide but have little or no control over these thoughts.

11. 0 I am not having impulses to kill myself.
    1 In some situations I have impulses to kill myself.
    2 In most situations I have impulses to kill myself.
    3 In all situations I have impulses to kill myself.

Insomnia Severity Index

Please answer each of the questions below by circling the number that best describes your sleep patterns ***in the past week***. Please answer all questions.

Please rate the current (past week's) **SEVERITY** of your insomnia problem(s):

12. Difficulty falling asleep

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

13. Difficulty staying asleep

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

14. Problem waking up too early

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

15. How **SATISFIED/DISSATISFIED** are you with your current sleep pattern?

0	1	2	3	4
Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied

16. To what extend do you consider your sleep problem to **INTERFERE** with your daily functioning (e.g., daytime fatigue, ability to function at work/daily chores, concentration, memory, mood, etc.)?

0	1	2	3	4
Not at all interfering	A little	Somewhat	Much	Very Much Interfering

INQ

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers: we are interested in what *you* think and feel.

1	2	3	4	5	6	7
Not at all true for me			Somewhat true for me			Very True for me

17. These days the people in my life would be better off if I were gone.

18. These days the people in my life would be happier without me.

19. These days I feel like a burden on the people in my life.

20. These days I think I make things worse for the people in my life.

21. These days, other people care about me.

22. These days, I feel like I belong.

23. These days, I am close to other people.

24. These days I think I am an asset to the people in my life.

Suicide Cognition Scale

Please read each item below and indicate to what extent you agree with each statement. Rate each statement using the scale below.

1	2	3	4	5
Strongly Disagree				Strongly Agree

25. The world would be better off without me

26. Suicide is the only way to solve my problems.

27. I can't stand this pain anymore.

28. I can't tolerate being this upset any longer.

29. It is unbearable when I get this upset.

30. I am completely unworthy of love.

31. Nothing can help solve my problems.

32. I can't imagine anyone being able to withstand this kind of pain.

33. Suicide is the only way to end this pain.

34. I don't deserve to live another moment.

Appendix C: Alternate Survey

The following questions ask you to think about yourself. Please read each item below and indicate to what extent you feel the statement describes you. Rate each statement using the scale below and indicate your responses on your answer sheet.

0	1	2	3	4
Not at all like me				Very much like me

1. I chose not to participate in the research because I am afraid it would adversely impact my career.

2. I choose not to participate in the research because I do not like to participate in anything.

3. I choose not to participate in the research because of privacy issues.

4. I volunteered to come to US Army Recruiting Command.

5. I would rather deploy than come to US Army Recruiting Command.

6. I do not like talking with behavioral health personnel.

7. I do not mind talking with behavioral health personnel.

8. If I had a problem, I would seek assistance from behavioral health personnel.

9. If I had a problem, I would seek assistance from a Chaplain.

10. If I had a problem, I would seek assistance from anyone outside the Army.

11. I do not like talking to behavioral health personnel because people would think I am crazy.

12. I do not like talking to behavioral health personnel because my supervisor would not trust me anymore.

13. I do not like talking to behavioral health personnel because my friends would be afraid to talk me or make fun of me.

14. If I had a Soldier who received treatment from or talked to, a behavioral health provider, I would not trust him/her anymore.

15. If I had a Soldier who needed to talk to someone, I would send the Soldier to a Chaplain.

16. If I had a Soldier who needed to treatment, I would send the Soldier to a behavioral health provider.

17. If I had a Soldier who received behavioral health care, I would not think less of that Soldier.

18. If I had a Soldier who received behavioral health care, I would think a lot more of that Soldier.

19. If I had a problem, I try to take care of it myself.

20. If I had a problem, I try to take care of it myself and then ask for help if I could not get rid of the problem.

21. If I had a problem, I usually ignore it

22. I am looking forward to my new assignment with excitement.

23. I am looking forward to my new assignment because I don't have to deploy.

24. I am looking forward to my new assignment because I will get to come home to my family.

25. I expect recruiting will be no more of a challenge than any of my other Army jobs.

26. I expect recruiting will be a challenge because it is the most different thing I have done.

27. I expect recruiting will be a challenge because I have a hard time talking with strangers.

28. I am not sure what to expect with this new assignment.

29. I know what to expect and looking forward to it.

30. I know what to expect but am just a little nervous.