HARDINESS AND HOMELESSNESS: A STRENGTHS-BASED PERSPECTIVE OF SERVICE USE BY VETERANS WHO ARE HOMELESS

by

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Presented to the Faculty of the Graduate School of
The University of Texas at Arlington in Partial Fulfillment
of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF TEXAS AT ARLINGTON
MAY 2009

ACKNOWLEDGEMENTS

It is important I acknowledge this dissertation project was funded through the Pre-Doctoral Social Work Fellowship Program supported by the United States Department of Veterans Affairs. Without the financial support offered by the VA and the assistance of the wonderful staff at the Dallas VA Medical Center, it is doubtful I could have undertaken such a project. In a time when secondary data analysis seems to be the ticket for expeditiously completing a social work Ph.D., I am grateful for the opportunity to collect primary data from an underserved and isolated population. This process helped me understand the challenges involved in developing a viable study, recruiting a sample, and collecting the data. While there are many roads to any given destination, this was the right one for me and I appreciate the support of Dr. Robert Zeiss at the VA Office of Academic Affiliation, the reviewers of my initial – and subsequently revised – proposal, and all other VA staff who helped make this an extraordinary educational opportunity.

On a more personal note, completing this degree has been a challenging and rewarding experience. It is also one I did not complete alone. That being said, I first would like to thank my parents for bringing me into this world, being my biggest cheerleaders, and offering me constant encouragement. Without their unwavering support this journey may have ended much differently.

Second, I would like to express my deepest appreciation to everyone who joined me on this endeavor. Some were involved for only a short time while others witnessed it from start to finish. Among those present for the whole journey, my chairperson, Dr. Joan Rycraft, provided me with extraordinary resources, support, and has proven to be an outstanding mentor. It is my hope I justify her efforts as a social work educator, researcher, and scholar. In addition to Dr.

Rycraft, I would also like to thank my dissertation committee members including Dr. Maria Scannapieco, Dr. Rebecca Hegar, and Dr. Jaimie Page. It has been a joy to work with all of them and I appreciate their patience, insights, and encouragement throughout this process. While not on my committee, Dr. Nancy Rowe made herself available to work though statistical conundrums and remind me that a “good dissertation is a completed dissertation.”

Dr. Carol S. North deserves special recognition as a member of my dissertation committee, VA fellowship supervisor, and mentor. Despite having never met she immediately agreed to join my dissertation committee and serve as fellowship supervisor. Her unwavering commitment to social science and habit of unmasking “fatal logic flaws” and “faulty paradigms” elevated the rigor of my study and made this dissertation a wonderful learning experience.

Sincere thanks go to Dr. Emily Spence. My supervisor for six semesters as a graduate research assistant, she introduced me to the world of applied community research and has been one of my biggest supports throughout my doctoral program. It was an honor to work with her at the CSC and I hope we continue to collaborate for many years to come.

In the midst of these larger “players”, many others helped me successfully complete this program. Without a doubt, members of my cohort including Dean, Stephanie, Sachi, Ebony, and Karla must be thanked. Whether during study groups, “venting sessions”, or small crises of confidence, they were incredible and I look forward to maintaining contact for years to come.

Many outside of the UTA School of Social Work provided unwavering support and encouragement during this journey. There are far too many to name but a few deserve recognition. I sincerely thank Deanna, Danny, Linda, Colby, and Linley. I know that first year was tough but I hope they see the effort proved worthwhile in the end. The friendship offered by Bruce, Randy, Jeff, Mike H., Mike G., and John brought respite in times of need, many laughs, and a reminder that the world is not to be taken too seriously. To my friends in Mississippi including Andy and Billy, the value of your continued friendship during difficult times cannot be overstated. Additionally, it is important to note the influence of Stacy Hughes, Ph.D., my

previous supervisor and mentor at COPAC, Inc. All of my efforts to further my education have been rooted in his continued support and encourarement. Finally, it is important to thank Marianne Wynn for her insight during my initial application to the Ph.D. program. It is all about “passion” isn’t it?

March 12, 2009

ABSTRACT

HARDINESS AND HOMELESSNESS: A STRENGTHS-BASED PERSPECTIVE OF SERVICE USE BY VETERANS WHO ARE HOMELESS

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The purpose of this study was to expand the current knowledge base regarding the use of assistance services by veterans who are homeless. Informed by existing gaps in the scientific literature, it recruited a systematic sample from a low-demand urban shelter and applied a strengths-based perspective by evaluating whether the personality construct of hardiness predicted utilization of assistance services. It also utilized a group of non-veteran homeless men to serve as a comparison group on key variables including demographic characteristics, hardiness, service utilization, mental and physical health functioning, and history of substance abuse problems. Framed within the Behavioral Model of Health Services Use, multiple linear regression was used to evaluate if hardiness predicted the use of five distinct assistance service sectors by veterans who are homeless. It was also used to determine if veteran status predicted higher levels of hardiness.

Consistent with existing research, results indicated these vulnerable and isolated groups of veteran and non-veteran men who are homeless differ in terms of basic demographic characteristics and the use of assistance services. Significant differences also existed in the use of VA versus non-VA services by veterans who are homeless. Other key findings indicated veterans and non-veterans were remarkably similar when compared on hardiness, mental; and physical functioning, and a history of substance abuse problems. Results of hypothesis testing indicated hardiness did not significantly predict the use of services. However, other enabling and need-based factors included in the regression models significantly predicted the use of services. Additional hypothesis testing indicated veteran status did not significantly predict higher levels of hardiness.

Discussion includes an assessment of hardiness as a predictor of service use by veterans who are homeless. Using the Behavioral Model, it was also possible to utilize the results of the regression analyses to make an assessment of service system access and equity. In addition to the use of services by veterans who are homeless, differences and similarities identified between the veteran and non-veteran study groups are also explored. Limitations and strengths of the study are identified and implications are offered for social work practice, social welfare policy, and additional social work research.

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STATEMENT OF THE PROBLEM

1.1 Introduction

1.1.1 Homelessness in the United States

Despite ongoing assistance efforts, homelessness continues to represent a persistent and vexing social problem in the United States. It affects more than 750,000 people daily (United States Department of Housing and Urban Development [HUD], 2007; Schindler and Coley, 2007) and between 2.3 million to 3.5 million annually (Kushel and Miaskowski, 2006). Just over half of all people who are homeless are found in emergency shelters, transitional housing, or supportive housing. The remainder live in places not meant for human habitation (HUD). For many people in the United States, homelessness is a temporary event while for others it is an episodic experience. Approximately 10% of people who are homeless experience the kind of protracted or cyclical homelessness identified as *chronic homelessness* (U.S. Department of Health and Human Services [DHHS], 2003). These individuals have been continuously homeless for more than one year or have experienced four episodes of homelessness in the last three years. They are also single and possess a medical or mental health disability (DHHS).

Disaggregated by household type; single adult males, females, and unaccompanied youth comprise 66% of all homeless while 34% are adults with at least one child accompanying them (HUD, 2007). The majority of all homeless people are African-American (45%) and Caucasian (41%) with Hispanic/Latino (5.7%), mixed-race (5.1%), American Indians and Alaska Natives (1.7%), Asians (1.2%), and Pacific Islanders (0.2%) being much less prevalent (HUD). Just over 40% of all homeless people fall between 31 and 50 years old, approximately 21% are between 18 and 30, 22% are under 18, and 11% are over the age of 51 (HUD).

The relative young age of people who are homeless, the disproportionate representation of African-Americans, and the prevalence of vulnerable groups of children and the elderly are notable. People who are homeless also report high rates of mental illness and substance abuse problems (Harpaz-Rotem, Rosenheck, and Desai, 2006; Page, 2007; Culhane, Metraux, and Hadley, 2002; Kushel, Vittinghoff, and Haas, 2001; Roll, Toro, and Ortola, 1999, Conley, 1996), health problems (Padgett, Struening, and Andrews, 1990; Schanzer, Dominguez, Shrout, and Caton, 2007), victimization (Lam and Rosenheck, 1998; Burt et al., 1999), suicidal behavior (Prigerson, Desai, Liu-Mares, and Rosenheck, 2003), and, despite a critical need for them, barriers to obtaining services (Page, 2007; Young et al., 2005; Wong, 1999; Rosenheck et al., 2001, Conley).

Given the complexity of contemporary homelessness, many programs have been developed to assist services to people who are homeless including housing, medical care, mental health and substance abuse treatment, case management, food, employment training, and services for children. The 1996 National Survey of Homeless Assistance Providers and Clients (Burt et al., 1999) determined approximately 40,000 homeless programs existed in the United States hosted at 21,000 locations. These secular and faith-based non-profit organizations, governmental institutions, and for-profit agencies utilize private and governmental funding although the type and proportion of funding vary widely (Burt et al.).

The majority of the funding for homeless assistance initiatives is provided by the federal government through the Stewart B. McKinney Homeless Assistance Act of 1987. Funding 20 assistance programs administered by six federal departments, this legislation continues to represent the most significant federal response to homelessness in U.S. history (Kyle, 2005; Foscarinis, 1996). Since 1987, the McKinney Act continues to be reconfigured and reauthorized with appropriations increasing from 326 million dollars (Foscarinis) to almost 2.5 billion dollars in 2009 (National Coalition for the Homeless, 2008).

1.1.2 Veteran Homelessness in the United States

Among people who are homeless, veterans of United States military service continue to represent a sizable subpopulation. Although it is difficult to accurately determine the proportion of veterans among all people who are homeless, estimates range from 18% to 51% (Rosenheck, Leda, Frisman, Lam, and Chung, 1996). Overall, between 200,000 and 250,000 veterans are homeless on a daily basis with twice that many over the course of a year (Tessler, Rosenheck, and Gamache, 2003; Nyamathi et al., 2004; United States Department of Veterans Affairs [VA], 2006). As with other subpopulations of people who are homeless, homeless veterans are marginalized from mainstream society through residential instability, discrimination, and social isolation (Horsell, 2006; Snow and Mulcahy, 2001; Amster, 2003). They are also are vulnerable to victimization (French, 1987; Lam and Rosenheck, 1998), possess high rates of unemployment, mental illness, physical illness, and experience lower life expectancies than the general public (Kushel and Miaskowski, 2006; Schanzer et al., 2007; Barrow, Herman, Cordova, and Struening, 1999).

Veteran homelessness is not a recent phenomenon. Rosenheck, Leda, Frisman, Lam, and Chung (1996) note that "for as long as there has been armed forces, homeless veterans have been subjects of public concern" (pp.97). The first hospital designed to serve veterans was reportedly established in England during the 12th century while the first housing specifically for veterans was established in England during the 1500's (Rosenheck, Leda et al., 1996). In the United States, homeless veterans have existed since the earliest days of the nation itself as members of Andrew Jackson's army found themselves homeless after the Battle of New Orleans in 1815 (Rosenheck, Leda et al.).

As homelessness increased during the 1980's, the presence of an estimated 200,000 veterans was also identified as an emerging problem (Robertson, 1987; Tessler, Rosenheck, and Gamache, 2002). Early research noted most homeless male veterans served in the Army (47%) or Navy (34%) with the remainder evenly distributed between the Marine Corps and the Air Force (Robertson). Veterans of the Coast Guard comprised the smallest subpopulation of veterans who

were homeless. Compared with non-veteran homeless men, homeless veterans tended to be older, better educated, and more likely to have been previously married. They also reported higher rates of psychiatric hospitalization, lower rates of lifetime illicit drug use, and experienced longer periods of homelessness than non-veterans (Robertson).

Initially, it was difficult to understand the prevalence of veterans among the homeless. After World War II, veterans were granted access to a wide array of benefits and services with many thinking these resources should have insulated them from homelessness (Rosenheck, Leda, Frisman et al., 1996). Despite this safety net, approximately 40% of homeless men served in the armed forces while only 30% of men in the general population reported prior military service (Rosenheck, Frisman, and Chung, 1994). When research indicated half of all homeless veterans had served in the Vietnam War, it was often assumed that combat-related difficulties were to blame (Tessler et al., 2002; Rosenheck, Morriesy, Lam et al., 2001).

Recent estimates of veteran homelessness in the United States indicate the number of homeless veterans is approaching 250,000 daily with twice as many experiencing homelessness over the course of a year (Nyamathi et al., 2004; VA, 2006). Homeless veterans are present in urban areas (79%), suburban areas (16%), and rural areas (5%) with 76% possessing a mental health problem, substance abuse problem, or both (National Coalition for Homeless Veterans, 2004). They continue to be older, more educated, and experience longer episodes of homelessness than non-veterans (Tessler et al., 2002). Just over 89.0% of veterans who are homeless received an honorable military discharge (National Coalition for Homeless Veterans). Among veterans who are homeless, it is estimated between 93% and 97% are male but the vulnerability of female veterans to homelessness is a growing concern (Fontana and Rosenheck, 2006; Looking at Our, 2006, pp. 7). The number of female homeless veterans is increasing and the odds of female veterans experiencing homelessness are two to four times greater than for non-veteran females (Gamache et al., 2003). Finally, homeless veterans are a diverse group in terms of their military experiences. Serving in all branches of the armed forces, veterans who are homeless have been deployed in a variety of theatres of operation, may or may not have served

in a war zone, and may or may not have experienced combat (Rosenheck, Gallup, and Leda, 1991).

1.1.2.1 Veteran Homelessness Research

A considerable amount of research has investigated the phenomena of veteran homelessness. Rosenheck et al. (1991) compared Vietnam era veterans with other homeless veterans to determine if differences existed in their risk for homelessness. Findings indicated homelessness was not significantly linked to service during the Vietnam era, deployment in the Vietnam theatre, or exposure to combat (Rosenheck et al.). It was best explained by medical, psychiatric, substance abuse, and social support problems common in other homeless veterans. The study also noted higher incidences of psychiatric, medical, and alcohol problems among non-white Vietnam combat veterans but stated further research was required to clarify these findings (Rosenheck et al.).

To better understand homelessness among different veteran groups, Rosenheck et al. (1994) utilized age cohorts to determine if the risk for homelessness differed between them. The group with the greatest odds of homelessness was not Vietnam-era veterans, but younger, post-Vietnam era veterans. Overall, a veteran was 1.4 times more likely to become homeless versus non-veterans and a Vietnam-era veteran was 1.01 times more likely to be homeless than non-veterans. Post-Vietnam era veterans aged 20 to 34 years old indicated the greatest risk as they were 3.95 times more likely to be homeless than a non-veteran (Rosenheck et al.). Discussion suggested higher rates of identified psychiatric illness, substance abuse, and antisocial personality disorder present within the 20 to 34 year old group contributed to this increased vulnerability (Rosenheck et al.). Calling these findings “striking” (Rosenheck et al., pp. 468), the authors disagreed with interpretations of veteran homelessness as the result of traumatic experiences in combat. Their findings suggested the most vulnerable group had the lowest chance of experiencing combat (Rosenheck and Chung). In light of these findings, a follow-up study was conducted 10 years later to determine whether risk for homelessness continued to remain in the 20 – 34 year old age group or whether a cohort-effect existed (Gamache,

Rosenheck, and Tessler, 2001). Results indicated the greatest risk for homelessness did not remain with the 20 to 34 year age group. Instead, it followed the original 20 – 34 year old cohort, now 35 to 44 years old (Gamache et al.).

The authors offer an interpretation of these findings. Noting the end of military conscription and the introduction of the all-volunteer military in 1973, military service at this time was characterized by low pay and reduced prestige due to controversy surrounding the Vietnam War (Tessler et al., 2003). The authors hypothesized some voluntary enlistees viewed military service as a means to escape social and economic disadvantage while for more deprived and socially isolated men it may have represented "an opportunity of last resort" (Tessler et al., 2003, pp. 519). At least for the at-risk subgroup identified in their research, vulnerability for homelessness was not created by military service but by pre-existing socioeconomic factors influencing social-selection to the military.

Additional efforts to understand veterans who are homeless also generated valuable results. Using a cluster analysis model, Humphreys and Rosenheck (1995) identified four distinct subgroups within the larger homeless veteran population. These subgroups included a *substance dependent* subtype, a *psychiatrically impaired* subtype, a *best functioning* subtype, and a *multi-problem* subtype. This typology was purported to offer a perspective regarding the etiology of veteran homelessness and inform specialized intervention approaches (Humphreys and Rosenheck). With 42% of the sample falling into the best-functioning subtype, this finding acknowledged the influence of extrinsic, structural factors on veteran homelessness, a view consistent with an ecological perspective of homelessness (Toro, Trickett, Wall, and Salem, 1991). For the substance dependence and psychiatric impairment subtypes, implications for treatment and housing resources were identified as the lack of housing undermines long-term community integration (Humphreys and Rosenheck). Among the subtypes identified by this study, the multi-problem subtype was considered the most disconcerting. Noting the tendency of this group to avoid assistance services and the increased incidence of mental health, substance

abuse, and legal problems, assistance efforts appeared less effective with this group than any other (Humphreys and Rosenheck).

A final study worthy of note included Mares and Rosenheck's (2004) investigation into the perceived relationship between military service and homelessness. Using a national sample of homeless veterans, 31% of participants attributed homelessness to service in the military (Mares and Rosenheck). Aspects of military experiences leading to homelessness included substance abuse problems (75%), inadequate preparation for civilian life (68%), loss of military structure (60%), weakened ties with family and friends (43%), military-related health problems (42%), and interruption of their education (29%) (Mares and Rosenheck). Additional findings indicated those who attributed homelessness to military service experienced more severe psychiatric problems, had more severe alcohol problems, were more likely to have served in a combat zone, and became homeless sooner after discharge (Mares and Rosenheck).

While veteran homelessness is a complex social problem, it also appears to be on the verge of increasing. Approximately 1.5 million veterans live under the federal poverty level with over 600,000 living below 50% of the federal poverty level (Looking at Our, 2006). Even if they do not possess other compounding risk factors including chronic health, mental health, or substance abuse problems, the existence of this vulnerable population is disturbing. Additionally, ongoing military operations in Iraq and Afghanistan may be creating a new group of veterans vulnerable to homelessness. Recent research indicates among returning combat infantry units, the incidence of major depression, generalized anxiety, and post-traumatic stress disorder (PTSD) is 11.2% for those stationed in Afganistan and 17.1% for those stationed in Iraq (Hoge et al., 2004). Coupled with elevated reports of problem alcohol use, low rates of mental health service use (Erbes, Westermeyer, Engdahl, and Johnsen, 2007), and the documented influence of these factors on homelessness, an already substantial problem could be on the verge of increasing.

1.1.2.2 Services for Veterans who are Homeless

As research continues to provide insight into the characteristics and needs of homeless veterans, programs have been developed to assist them. Through the Stewart B. McKinney

Homeless Assistance Act, the U.S. Departments of Housing and Urban Development, Agriculture, Health and Human Services, and Homeland Security fund a multitude of assistance programs accessible to homeless veterans (Foscarinis, 1996; United States Department of Housing and Urban Development [HUD], 2002). The Department of Labor also administers the Homeless Veteran Reintegration Program which assists homeless veterans with job training, preparation, and placement while providing supportive housing and case management services (U.S. Department of Labor, n.d.)

In the midst of these initiatives, the U.S. Department of Veterans Affairs (VA) provides the majority of services directed exclusively towards homeless veterans. Health care, mental health care, substance abuse treatment, case management, and more are offered at VA medical and behavioral health centers, clinics, drop in centers, and through street outreach programs (Lloyd-Cobb and Dixon, 1995; VA, 2006). In cooperation with HUD, the VA also provides grants, loan guarantees, and per-diem reimbursement to programs serving the housing and supportive service needs of veterans. Veterans Industries Programs provide homeless veterans with transitional housing and employment to support community reintegration (VA). To increase access and use of service-connected benefits, the VA provides specialized benefit assistance counseling to veterans who are homeless (Lloyd-Cobb and Dixon;VA).

Acknowledging the array of services available to homeless veterans, questions exist whether they use them and if they benefit from them. An initial assessment is that in some instances, services are not reaching homeless veterans and if they do, outcomes are less than optimal. Of the estimated 400,000 to 500,000 veterans experiencing homelessness each year, only 25% accessed VA homeless treatment and community-based assistance networks (Looking at Our, 2006). Compared with homeless non-veterans, homeless veterans reported higher usage of shelter-based clinics and street outreach teams for usual health care versus community-based clinics offering more continuity of care (O'Toole et al., 2003). Of the 129 veteran participants in the study, 41% reported using VA hosted emergency departments and clinics and 51% reported a need for VA benefits (O'Toole et al.). Conducted in large urban areas with developed VA

medical and behavioral healthcare networks, the utilization rates reported by this study appear low. When veterans do access services, it appears outcomes are poor. Evaluating a residential VA program for mentally ill homeless veterans, Justus, Burling, and Weingardt (2006) discussed that of the 596 individuals entering the program, only 25% completed the program and 15% graduated.

Research has also attempted to understand why homeless veterans *do not use services.* However, few studies exist regarding this phenomenon. One example noted that in the midst of ongoing mental and physical health difficulties, scarce resources, and public perception problems, veterans were often faced with barriers including insensitive service providers, negative program policies, and a cumbersome social service system (Applewhite, 1997). In response, homeless veterans retreated from service providers and relied more on informal support systems and life-coping skills (Applewhite). Offering an alternate perspective, Higate (2000a) proposed the theme of unsheltered homelessness was linked to knowledge of outdoor survival skills and the high degree of physical fitness engendered by the military. Participants discussed their first episode of unsheltered homelessness as a "rite of passage" (Higate, 2000a, pp. 104) while others noted the transition to unsheltered homelessness after military discharge was "no big deal" (pp.104). These findings, coupled with discussions of military institutionalization, socialization, and the difficulties with transitioning to civilian life lead Higate (2000a) to hypothesize for some, unsheltered homelessness is an expression of a military ideology embracing physically demanding situations.

Considering the results of this preliminary assessment of veterans who are homeless and their use of assistance services, additional research is warranted. Existing social policy and programs have been developed to assist veterans who are homeless but given the rates of utilization and outcomes identified earlier, it appears these programs could be improved. By assessing uninvestigated factors theoretically associated with service use, it would be possible to expand the current understanding of service-use and incorporate these findings into the social policy and programs aimed at assisting veterans who are homeless. In the end, it would be hoped

this effort would inform policies and programs better able to meet the needs of homeless veterans.

1.2 Organization of the Dissertation

The purpose of this study was to contribute to the current understanding of service-use by homeless veterans by exploring previously uninvestigated factors theoretically linked to the use of services. It also sought to implicitly utilize social work's strengths-based perspective to guide the conceptualization of the study and inform its design. In practice, this research initiated with an examination of existing literature regarding military structure, culture, and training methods. It was hoped this aspect of the review would facilitate some degree of the cultural competence regarding the United States armed forces. Specific areas of interest in this section included:

- Overview of the United States Armed Forces
- Overview of Military Culture
- Differences Between Military Branches
- Overview of Military Training
- Outcomes of Military Training and Culture
- Who Serves in the Armed Forces?

Subsequent sections included a more thorough review of the existing empirical literature regarding service-use by veterans who are homeless. Informed by gaps in the knowledge base, a research design was developed. Stages of this process identified the study population and study setting, selected measures, obtained a study sample, gathered and analyzed data, and presented findings. In the midst of these more practical considerations, a conceptual framework was also developed to underpin the propositions and efforts of this research.

1.3 Relevance to Social Work

As the nation's largest group of mental health service providers (Padgett, Gulcer, and Tsemberis, 2006), social workers play a key role in efforts to address veteran homelessness in the United States. They provide direct services including outreach, clinical mental health services,

substance abuse counseling, and more. Social workers also work in medical care settings where they interact with homeless veterans in coordination of care and discharge planning activities. Finally, social workers are found in a variety of other service settings where they assist clients with housing, benefits, employment, and basic needs. Given the multitude of opportunities for social workers to interact with veterans who are homeless, research regarding their use of assistance services is relevant to the social work profession.

Beyond providing direct services to veterans who are homeless, social workers participate in the development of effective policy approaches to veteran homelessness. The Stewart B. McKinney Act, the primary source of federal funding for most homeless assistance programs, continues to represent an inadequate, stopgap approach to homelessness (Kyle, 2005, Foscarinis, 1996). Even if funded at the levels required to meet demand, it continues to neglect larger, structural factors influencing homelessness (Kyle) and social workers are on the front lines advocating for a more comprehensive approach to addressing homelessness. Additionally, social workers seek to improve the cumbersome nature of the current assistance network (Applewhite, 1997) and encourage policy supporting evidence-based, non-traditional outreach and housing approaches (O'Toole, 2003). Given the number of veterans accessing services influenced by these policy initiatives, a more informed understanding of factors influencing service use and any differences between client groups would support this effort.

A critical component of improved social work practice and policy advocacy for homeless veterans is rigorous and relevant research. As demonstrated by this initial review, a large amount of research has investigated the problem of veteran homelessness but critical gaps in this understanding exist. At the least, the presence of the methodological limitations warrant more rigorous research designs. An additional consideration is the lack of research evaluating veteran homelessness from a strengths-based perspective. While admittedly brief, the majority of the published research presented earlier investigated homelessness from what could be considered a *deficit-based* perspective with a focus on problem areas including mental health, medical, and substance abuse. While it is important to understand the incidence of these problems among

veterans who are homeless, or gain insight into the characteristics of individuals leading to poor treatment outcomes, the lack of attention to factors influencing the ability to tolerate homelessness, facilitate survival, and promote service utilization is troubling. By conducting strengths-based research, insight could be gained into the ability of homeless veterans to navigate the challenges and stressors inherent to homelessness and begin to provide direction as to how service providers may be able to capitalize on these assets.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Review Methods

The purpose of this study was to offer an additional perspective on the use of assistance services by veterans who are homeless. To support this research, a review of empirical and non-empirical literature was conducted. Materials included professional journal articles, books, governmental and non-governmental organization reports and web-sites, video documentaries, and articles from popular news publications. Sources were identified using electronic databases maintained by the University of Texas at Arlington library including Academic Search Complete, Military and Government Collection, JSTOR, Sociological Abstracts, Social Service Abstracts, Proquest Dissertations and Thesis Database, Psychinfo, and Anthrosource. Initial search limiters included *homelessness, homeless, veterans,* and *military.* Additional terms were included as they were identified. Of the articles selected, many were immediately available in electronic or print form. If sources were not immediately accessible, they were obtained through interlibrary loan. Additional sources were located through the UTA library catalogue and popular internet search engines including Google and Google Scholar. As with journal articles, materials not readily available were obtained through interlibrary loan or in some cases purchased.

Literature relevant to three topical areas was evaluated to support various aspects of the study. Initially, empirical and non-empirical sources provided insight into the larger structure of the military and its branches, military culture, military training, and the factors motivating individuals to enlist. This aspect of the review was conducted to develop some degree of cultural competence regarding the United States Military. While not essential for testing the study hypotheses, the emphasis of the National Association of Social Workers (2001) on developing “specialized knowledge and understanding about the history, traditions, values…of major client groups” and

the need to “be able to communicate information about diverse client groups to other professionals” motivated this effort.

The next area of interest included the use of assistance services by veterans who are homeless. Relevant empirical and non-empirical sources were evaluated to develop an understanding of the current knowledge base, identify gaps in this knowledge, and inform hypotheses tested during the research. Specific aspects of service included basic patterns and rates of utilization, outcomes, and factors correlated or predictive of service utilization. Given the emphasis on contributing to the development of more efficacious services, research identifying empirically validated predictors of service utilization by veterans who are homeless was of special interest. By evaluating this body of knowledge and identifying gaps in the prior research, it was hoped this study could identify additional factors influencing the use of services. It was also during this aspect of the review that a theoretical framework pertinent to service utilization was identified and applied to this study. By using a common perspective of service use, it was hoped findings could be integrated into the current body of knowledge and applied to the development of programs assisting veterans who are homeless.

2.2 The United States Armed Forces

2.2.1 Overview of the United States Military

The United States military is made up of five branches including the Army, Navy, Marine Corps, Air Force, and Coast Guard. All services operate under the auspices of the Department of Defense (DOD) except for the Coast Guard which is currently administered by the Department of Homeland Security, (Borklund, 1991). The Department of Defense is a cabinet-level section of the federal executive branch established in the aftermath of the American effort during World War II (Borklund). Its stated mission is to “provide the military forces needed to deter war and protect the security of our country” (U.S. Department of Defense [DOD], n.d.). It coordinates the nation’s land, sea, and air assets under the direction of the Secretary of Defense who, collaborating with the Joint Chiefs of Staff, advises the President on military matters (Trask, 1994).

While each branch of the armed forces provides a traditional function, general activities include warfighting, humanitarian aid, peace keeping, disaster relief, and homeland security (U.S. Department of Defense [DOD], n.d.). The Army is the oldest branch of the military authorized by the Second Continental Congress on June 15, 1775. The Navy and Marine Corps followed the same year on October 13th and November 10th respectively (Braim, 1994; Palmer, 1994; Simmons, 1994). The origins of the Coast Guard date back to the U.S. Revenue Cutter Service and the U.S. Life-Saving Service, respectively established in 1790 and 1848. These services were formerly joined to form the smallest branch of the United States Armed Forces on January 28, 1915 (King, 1994). The youngest branch of the military is the United States Air Force created on September 18, 1947 (MacIsaac, 1994). Previously, it existed as a component of the U.S. Army within the Signal Corps, was later designated as the Army Air Service, evolved into the Army Air Corps, and as a separate military branch was known as the Army Air Force (MacIsaac).

Each branch of the armed forces serves a unique function within the United States Armed Forces and their perspective mission statements illuminate their role in the larger military. The Army's mission is to provide "…prompt, sustained land dominance across the full range of military operations" (United States Army - Organization, n.d.) while the Navy is mandated to "be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea" (Department of the Navy, 2000). In the midst of the Army and Navy's orientations towards land and sea, the mission of the Air Force is to "deliver sovereign options for the defense of the United States of America and its global interests -- to fly and fight in air, space, and cyberspace". The addition of *cyberspace* to the Air Force mission is relatively recent, acknowledging "adversaries of the United States will use any method or venue necessary to contest America…"(United States Air Force - Mission, 2005).

The Marine Corps and the Coast Guard provide more specialized or geographically specific functions. Contained within the Department of the Navy, the mission of the Marine Corps is "…to provide fleet marine forces of combined arms, together with supporting air components, for service in the seizure or defense of advanced naval bases and for the conduct of such land

operations as may be essential to the prosecution of a naval campaign" (National Security Act, 1947). The Marine Corps mission is also to coordinate amphibious resources with the Army and Air Force as needed and provide security at Naval instillations (National Security Act). The mission of the Coast Guard is to protect the "public, the environment and U.S. economic interests in the Nation's ports and waterways, along the coast, on international waters and in any maritime region required to support national security" (United States Coast Guard - Missions, n.d.). This branch is largely domestically-based but can support international military efforts when required. When this occurs, the Coast Guard is subsumed into the Navy and subject to the command of the Secretary of the Navy (USCG). The primary functions provided by the Coast Guard include maritime safety, maritime security, maritime mobility, national defense, and protection of natural resources (USCG).

Personnel serving in the military are classified as *active-duty* or *reservist.* Active-duty members of the military serve full-time (United States Department of Defense, 2005) while reservists are required to serve a minimum number of days per year. Reservists can also be *called up* to augment the active-duty military when necessary (Army National Guard - Federal, n.d.). While each branch possesses its own distinct reserve*,* the Army National Guard and the Air National Guard also serve the state in which it is based. When not assisting federal armed forces at the direction of the President, the National Guard considers its respective governor its Commander in Chief (Army National Guard - State, n.d.). Currently, there are just over 1.4 million active duty members of the United States armed forces and 852,000 individuals serving in the reserve components (United States Department of Defense, 2007). Table 2.1 provides a breakdown of this distribution and an estimation of the total current strength of the United States Military:

Table 2.1: Branch Strength and Total Strength

Branch	Active Duty	Reservist	Branch Total
Army	512,000	350,000 (Guard) 200,000 (Reserve)	1,062,000
Navy	340,000	71,000	411,000

Table 2.1 – *Continued*

Branch	Active Duty	Reservist	Branch Total
Air Force	334,000	107,000 (Guard) 75,000 (Reserve)	516,000
Marines	184,000	39,000	223,000
Coast Guard	41,000	10,000	51,000
Total Strength			2, 263,000

2.2.2 Overview of Military Culture

Considering social work's value orientation towards cultural competence, any attempt to speak to a veteran's experience of homelessness should begin with an understanding of military culture itself. The overarching assessment is military culture is unique, complex, and often not well understood by civilians (Soeters, Poponete, and Page, 2006; Ricks, 1997; Burke, 2004, Holsti, 1998). As noted by Burke (2004): "members of the military, whether on duty or off, combatants or non-combatants, active-duty or retired, share an identity fashioned by an always distinctive, frequently compelling, and occasionally bizarre military culture" (pp. 12). It does not reflect the larger society in the United States in that it is paternalistic, maintains a strict hierarchy, and generally involves "long career pipelines and lock step paths" (Lawrence, 2006, pp. 219; Burke). When compared to the civilian business sector, the military is characterized by a more collectivistic approach encouraging interdependency, group orientation, and group cohesion (Soeters et al., 2006). Individuals in the military also tend to place less value on individual achievement, especially in terms of salary, than in the civilian business environment (Soeters et al.).

Highly criticized qualities of military culture include misogyny and homophobia. According to Burke (2004), men who fail to meet basic training standards in the Army are often labeled as "girls, ladies, faggots, fairies, or pussies" (pp.45). Marching chants were observed to regularly objectify women (Burke). Well publicized scandals including the Navy's Tail Hook convention in 1991, sexual assaults at the Air Force Academy, the high number of sexual assaults of women stationed in Iraq, Kuwait, or Afghanistan, and policies excluding homosexuals from the military continue to be highly contested issues (Burke; Pierce, 2006).

Although women have successfully served with the U.S. military since the Revolutionary War, their ability to integrate into the armed forces has been hampered by fears they would undermine unit cohesiveness among males, be vulnerable to sexual harassment, be unable to perform required physical tasks, and not tolerate the stress of combat (Stremlow, 1990; Pierce, 2006). However, recent research indicates servicewomen are no more vulnerable to stress than servicemen and, with some accommodations, are able to complete physical tasks required of them (Pierce). When comparing male and female military leaders, there has generally been little difference between them (Pierce). Unfortunately, women continue to be subject to biases and stereotypes which label femininity as undermining leadership. In regards to sexual harassment, military's structure seems to present an environment where assaults are likely to occur as "high male-to-female ratios, traditionally male environments, and the predominance of male supervisors…. are conducive to increased sexual aggression towards women" (Peirce, 2006, pp. 107). In 1995, a military survey indicated 52% of women experienced sexual harassment and although most knew the process for reporting harassment, 10% did not feel that reporting it would do any good while 42% feared they would suffer adverse consequences (Zeigler and Gunderson, 2005).

The military has also been criticized for its longstanding exclusion of homosexuals from the armed forces. Although a variety of rationales have been used, concerns regarding unit cohesion and privacy are the most dominant official arguments (Herek and Belkin, 2006). Cohesion concerns largely revolve around the ideal that homosexuality undermines "morale, good order, and discipline" (Herek and Belkin, 2006, pp. 125) and that gay service members would be so disliked by heterosexuals that unit bonds would be destroyed. The concern for privacy is largely based on the premises that service members should be afforded privacy which could not be provided if homosexuals were admitted into the military. Additional aspects of this rationale are an injury occurs when a heterosexual is aware they are being observed by a homosexual and gays are not already interacting with heterosexuals in intimate environments (Herek and Belkin).

Research has questioned these rationales. Herek and Belkin (1996) note task accomplishment and familiarity between unit members had more of a positive influence on cohesion than social similarity. Excessive. social similarity may actually have negative consequences including "excessive socializing, groupthink, insubordination, and mutiny" (pp. 126). Finally, it was noted if policies regarding open homosexuality in the military did change, it is unlikely many gays would reveal their sexual orientation.

When evaluating the privacy rationale used to exclude homosexuals from the military, the current lack of significant problems despite homosexual and heterosexual service members knowingly serving together dispel some concerns (Herek and Belkin). Additionally, communal shower and restroom facilities are being used less in the military and therefore the opportunity for privacy violations are increasingly rare. Finally, the attitudes of heterosexual servicemen and women may not be as biased against homosexuality as was previously thought. Among junior enlisted men and officers, the belief gays be allowed to openly serve in the military has increased in recent years, indicating the obstacle to integration is not the attitudes of servicemen and women, but of military tradition (Herek and Belkin).

Some aspects of military culture have been considered socially progressive. The integration of the military by President Harry S. Truman in the 1950's allowed African-Americans access to opportunities generally not available to them civilian society (Burke, 2004). Ricks (1997) discussed that:

> At a time when America seems distrustful of its young males, when young black men especially are figures of fear for many Americans, the military is a different world. As the sociologist Charles Moskos has observed, it is routine in the military, unlike the rest of the nation, to see blacks boss around whites (pp.19).

This is not to say racism did not exist within the military but unlike policies regarding homosexuals, attempts were made to introduce sensitivity training and cultural education (Herek and Belkin, 2006). When these efforts were met with resistance, an alternate strategy sought not so much to alter racial attitudes but prohibit discriminatory behavior (Herek and Belkin). These efforts seem to have had a positive effect as the prevalence of African-American officers in the

armed forces increased with some attaining the highest levels of leadership (Langley, 1994; Ricks; Burke, 2004). While this progress has not been uniform across all military braches, racial tensions within the armed forces have generally relaxed and that at times, the bonds between servicemen transcend race altogether (Ricks).

2.2.3 How do Military Branches Differ?

In the midst of these larger generalizations, differences exist between military branches with each representing a subculture possessing its own distinct history, traditions, values, vocabulary, and practices. In general, Burke (2004) discusses "military culture is made and made for a purpose. Any cultural practices that cannot be justified as serving directly or indirectly the mission of service and protection cannot be tolerated" (pp. 23). While this statement is intended to discuss the larger United States military culture, it seems applicable to its distinct parts as well. The Army, by nature of its size and mission, tends to believe that it is the service branch that *wins* wars (Newell, 1994) while the Navy purports itself to be the nation's "first line of defense" (Palmer, 1994, pp.380). The youngest branch, the Air Force, is considered more open to new ideas and with its belief air power alone can win an armed conflict, is the most independent of all the services (Newell). The Coast Guard takes pride in its blending of military, humanitarian, civilian law-enforcement duties requiring it be prepared to respond to a variety of scenarios including life saving, environmental emergencies, illegal drug interdiction, and supporting the Navy as needed (United States Coast Guard - Mission, n.d.).

Of all of the branches, the Marine Corps are considered "distinct even within the separate world of the U.S. military" (Ricks, 1997, pp. 19). More than any other service, the Marine Corps continues to embrace the warrior identity noted by the edict "every marine a rifleman" (United States Marine Corps, 2003). From a boot camp lasting three weeks longer than any other service, an increased emphasis on combat training (United States Marine Corps - Training, n.d.), their motto as "The Few. The Proud", and highly ornamental uniforms (Burke, 2004), the Marine Corps appear to place themselves above other service branches.

2.2.4 Overview of Military Training

The purpose of the military is to "engage in conflict and the resources it deploys are essentially human" (Hockey, 2002, pp. 149). It is also to place at the nation's disposal a group of servicemen and women who must "overcome the fear of and aversion to killing that is bred in the bones as a civilian" (Sherman, 2005, pp. 75). Therefore, it is important to understand how individuals are incorporated into the military, assimilate into its culture, and engage in its activities. Each year, the military accepts approximately 330,000 new recruits, enlisted and reservist, into the four major branches of the armed forces (United States Department of Defense, 2005). According to Burke (2004) the best way to understand how new recruits are introduced to this culture, one only need look at boot camp:

> Boot camp transforms recruits from jocks and nerds, boys from the 'hood and women from the suburbs, into knockoffs of model soldiers by stripping them of their clothes, shaving off their hair, forbidding them their accustomed freedoms, and instilling military discipline in them as second nature (pp. 13).

All services conduct some type of boot camp experience for new recruits although they differ considerably. The Air Force's boot camp is the shortest, lasting 6 weeks while the Marine Corps' recruit training program lasts twice that (United States Air Force - Training, n.d.; United States Marine Corps - Training, n.d.). The Coast Guard, Navy, and Army conduct boot camp experiences which are seven, eight, and nine weeks long respectively (United States Coast Guard - Training, n.d.; United States Navy - Training, n.d.; United States Army - Training, n.d.). In the training of new servicemen and women, boot camp represents an essential component in the socialization of the new recruit into the armed forces. It is in this environment where new recruits are exposed to core organizational values of the service, experience a restructuring of their identity, and begin to assimilate into the larger organization (Grogean and Thomas, 2006).

Organizational values play a significant role in the creation of new service members. After experiencing several ethical scandals over the last two decades, branches of the armed forces recommitted themselves to defining and actively incorporating organizational values into their culture (Grogean and Thomas, 2006). Each branch has a distinct set of core values and from the

time a new recruit enters boot camp, these values are reinforced in the hopes they will influence recruit behavior and performance. Table 2.2 identifies the core organizational values used by each perspective service:

Table 2.2 Core Organizational Values

Branch	Core Values
Army	Loyalty, Duty, Respect, Selfless Service, Honor, Integrity, Personal Courage (United States Army, n.d.)
Navy	Honor, Courage, Commitment (United States Navy, n.d.)
Air Force	Integrity First, Service Before Self, Excellence in All We Do (United States Air Force, n.d.)
Marine Corps	Honor, Courage, Commitment (United States Marine Corps, n.d.)
Coast Guard	Honor, Respect, Devotion to Duty (United States Coast Guard, n.d.)

The significance attached to these values is evident in the manner they are communicated by the military itself. Sailors in the Navy meet the challenges of service while "adhering to a higher standard of personal conduct and decency" (Department of the Navy, n.d.). The Army reminds its soldiers "facing moral fear and adversity may be a long, slow process of continuing forward on the right path…" (United States Army - Values, n.d.). The Air Force identifies its values "inspire the trust which provides the unbreakable bond that unifies the force" (United States Air force - Values, n.d.). The Coast Guard purports their values "guide our performance, conduct, and decisions, every minute of everyday" (United States Coast Guard - Values, n.d.). Finally, Marine Corps values imply recruits are not only physically and mentally not up to the task of service, they are patriotically lacking as well. Consequently, after completing the Marine Corps boot camp experience, "the marine created is not just a better trained, morally conscious marine, but is also a better American citizen…" (United States Marine Corps - Values, n.d.).

In the hopes of creating effective servicemen and women, boot camp involves a mixture of conditioning, training, and indoctrination. It begins with the recruits being administratively processed, medically evaluated, their physical condition assessed, and introduced to basic

military protocols and procedures. This is also a time where the recruit's socialization to the military begins as their "…civilian world becomes part of the Army world…" (United States Army - Training, n.d.). For some branches, the entrance to boot camp, even in terms of the recruits arrival to the training facility, is made to be as disorienting and uncomfortable as possible. Recruits are de-individualized as they are issued anonymous uniforms; refer to themselves in the third person as "this recruit…" (Lowry, 2004), and are discouraged from exchanging personal information with one another (Burke, 2004; Ricks). This process continues as recruits are introduced to the history and tradition of their service, synchronize their movements with others during drills, and transform their body through intense and demanding physical conditioning (Hockey, 2002; Burke).

As basic training continues, recruits learn basic skills required by their service. They learn to tie knots, handle classified materials, fight fires (United States Coast Guard - Training, n.d.), or are introduced to firearms and first-aid training (United States Navy - Training, n.d.). The Marine Corps or Army place more emphasis on marksmanship, hand to hand combat techniques, exposure to chemical weapons, and living in the field (United States Marine Corps - Training, n.d.; United States Army - Training, n.d.) because of the direct combat roles they serve. In addition to skill oriented instruction, most military branches also provide education regarding topics which include defensive driving (United States Marine Corps - Training), rape and sexual assault awareness, sexually transmitted diseases (United States Coast Guard – Academics, n.d.), housing, and household goods (United States Navy – Classes, n.d.).

An important aspect of basic training is the inclusion of the various rites-of-passage which mark the end of boot camp. For the Coast Guard, this includes final academic examinations and assessments of personal fitness (United States Coast Guard - Training, n.d.). The Navy places emphasis on the completion of a five-day fire-fighting course and the Basic Seamanship Phase (United States Navy - Training, n.d.). More challenging rites can be found in the Air Force, Marine Corps, and the Army. Here, recruits are placed in the field for a period ranging from three to seven days where they carry out their duties while operating in stressful environments. All of

these experiences include elements of sleep and food deprivation, long distance marches, problem-solving and team-building exercises, and mock combat exercises (United States Army - Training, n.d.; United States Marine Corps - Schedule, n.d.; United States Air Force - Warrior, n.d.). The guiding purpose of these exercises is for the recruit to demonstrate successful integration of military knowledge, values, and skills, indicating the "induction of the initiate into full membership…" (Burke, 2004, pp. 14).

2.2.5 Outcomes of Military Training and Culture

The ultimate goal of the military's emphasis on values, its training regimen, and academic curriculum appears to be *transformation*. All of the services speak to this process as they discuss the purpose of basic training is to "challenge" (United States Air Force - Training, n.d.; United States Navy - Training, n.d.; United States Coast Guard - Training, n.d.) the recruit by pushing them past their perceived limitations physical and psychological limitations, develop a new sense of self-confidence and efficacy (United States Army - Values, n.d.; United States Marine Corps - Training, n.d.; United States Air Force - Warrior), and create a military identity which supplants civilian orientations (United States Marines - Training; United States Navy - Training; United States Coast Guard - Training). An essential component of this process is the rigorous conditioning of the body and the emphasis on the development of physical capital by the military (Thomas, Adler, Wittels, Enne, and Johannes, 2004). As discussed by Higate (2000a), "efficient cardiovascular systems, strength, agility, and overall tolerance to hardship represent the particular attributes towards which military basic training and continuation training are oriented" (pp. 101). This conditioning, combined with ongoing skills development and incorporation into a *unit*, ensures that if and when contact with an *enemy* occurs, soldiers react with maximum speed and utilize embedded skills efficiently (Hockey, 2002).

Discipline is another essential aspect of the transformation of new recruits into members of the armed forces. By instilling discipline in new recruits, the military hopes to ensure behavior is predictable and uncoordinated or individual action will not threaten organizational objectives (Hockey, 2002). While this is especially true in the case of combat personnel, it would seem to be

the case for all personnel given the interrelated nature of their duties. In other words, as the combat unit needs to follow orders and move in a strategic and measured fashion, so do personnel who supply them, pay them, feed them, move them, and care for them. Here again the military tends to view recruits entering boot camp from a larger society that is "disintegrating" (Ricks, 1997, pp. 37) and it is the purpose of basic training to essentially eradicate this influence. In this environment, recruits are controlled in terms of their movement, conduct, appearance, and speech (Burke, 2004; Hockey) while developing an internal discipline to tolerate harsh environments and physical discomfort (Ricks), psychological stress (Brit, Stetz, and Bliese, 2004), and fear inherent in military service (Sherman, 2005).

The development of a "strong and stable identity" (Grogean and Thomas, 2006, pp. 52) also discussed to be a goal of military training. These qualities allow serviceman or servicewoman to cope with isolation, ambiguity, danger, powerlessness, boredom, and the intense workload characterizing military operations (Bartone, 2006). By developing servicemen who are confident, competent decision makers, physically disciplined, situationally aware, aggressive, and able to tolerate physical hardship (Yi, 2004; Franke and Heinecken, 2001), the military seeks to create servicemen and women able to accomplish the organizational mission regardless of the circumstances. Outcome variables identified by Grogean and Thomas (2006) related to this larger goal include task mastery, collective efficacy, cohesion, and organizational commitment. Even more importantly, the emphasis of the military on values of service illustrates while members of the military are expected to sacrifice "time and energy in peacetime" (Ulmer, 2005, pp. 18), they also must be willing to sacrifice "life and limb in combat" (pp. 18).

An additional outcome of military training and culture is the stoicism which characterizes many members of the armed forces. Sherman (2005) notes the language of stoicism is embedded in the training and culture of the military as recruits and servicemen are encouraged to "suck it up" (pp. IX) and "tough it out" (pp. X) as they encounter challenges of recruit training and service. From Hockey's (2002) perspective, this process essentially requires that the serviceman dissociate themselves from their body and cease to feel pain or hunger. Delving deeper,

Sherman (2005) discusses this warrior as “tough, unflappable, and steady, even in the face of life-threatening danger or terror” (pp. 101). However, she also discusses stoicism represents a *double-edged sword* as it “promises a kind of invulnerability it cannot ultimately deliver and leads to the undoing of the mind” (Sherman, 2005, pp. X). In the end, Sherman maintains stoic notions of self-reliance and mastery must be reconsidered and combined with a “healthy sense of resilience and humanity” (Sherman, 2005, pp. 152) acknowledging the importance of connectedness with others.

Higate (2003) also notes the emphasis on stoicism in the military. Displays indicating physical or emotional inadequacy are met with derision while displays of aggression, endurance, and loyalty to peers are valued and reinforced. An additional aspect of this discussion is his attention to the relative difficulty with which members of the military leave the service and re-enter the civilian world. Because creating and sustaining a military persona is supported by a tremendous amount of time, energy, and money, leaving the military for some results in an “identity crisis’ (Higate, 2003, pp. 102). Of those who were not able to re-socialize, they seem to experience more problems with some appearing to equate their discharge from the military with being emasculated (Higate).

The implications for this discussion are considerable for veterans who are homeless. Homeless veterans may adopt a survival orientation that depends, among other things, on a “belief in individual and collective competence and internal strengths” (Applewhite, 1998, pp. 20). Higate (2000a and 2000b) discusses that in the midst of the harsh conditions of homelessness, coping skills based in the ideology of self-sufficiency, independence, and the ignorance of physical “warning signs” (Higate, 2000a, pp. 105) characterize some veteran’s experience of homelessness. Essentially, these coping strategies seem to be characteristic of a mindset where “emotional disclosure - suggesting that one is in need – is actively discouraged” (Higate, 2000b, pp. 333) and a propensity to avoid asking for help.

2.2.6 Who Enlists in the Armed Forces?

Considering the previous discussion of the general structure of the military, its culture, training methods, and proposed outcomes, understanding who decides to serve in the military is an important aspect of this study. However, prior to exploring this issue, it is important to note a shift in federal policy during the early 1970's had a tremendous impact on the complexion of the United States armed forces. Prior to June 30, 1973, the military maintained a small cadre of professional soldiers during peacetime but in the event of major hostilities would rely on "conscription or draft-induced volunteers" (Moskos, 1973, p. 257) to fill the ranks (Janowitz, 1975). Therefore, massive movements of civilians into and out of the armed forces resulted in a military composition that was socially representative (Janowitz). During the 1960's however, conscription was officially reconsidered due to vigorous anti-draft efforts (Tessler et al., 2003) and signs of disintegration within the military itself (Moskos, 1973). In light of these factors, President Richard M. Nixon created the Gates Commission to study the feasibility of an all-volunteer force, a concept unanimously recommended by the panel (Moskos).

Although recommendations of the Gate Commission led to the end of conscription (Moskos, 1973), the concept of an all-volunteer military force was not universally supported. Janowitz (1975) discussed the implementation of a *standing force* instead of one mobilized during times of need would result in the military emphasizing "organizational boundaries and distinctive values" (p. 433), disrupting the linkages between the armed forces and the larger civilian society. Another concern was the military would become less socially representative although this process would not predicted to affect enlisted men and officers in the same manner (Janowitz, 1975). Janowitz (1975) hypothesized an all-volunteer force will recruit enlisted men from more vulnerable and marginalized groups – especially African-Americans - while officers will be selected through specialized recruitment, promoted from within the military, and created by the existing military academies (Janowitz).

Moskos (1973) expressed similar concerns noting an all-volunteer force would be heavily populated by groups of less educated and minority Americans. He predicted an emerging all

volunteer force would be segmented with some aspects being civilianized while others would remain traditional. The Air Force was proposed to be an example of a civilianized component of the military while the Marine Corps was considered to be more traditional due to its reliance on traditional training procedures and regimentation (Moskos). In terms of the larger military, Moskos (1973) discussed that:

> Traditional features in the military will become most pronounced in combat forces, labor-intensive support units, and perhaps at senior command levels. Those in the traditional military will continue to cultivate the ideals of soldierly honor and the mystique of the armed forces….The social isolation of such a traditional military will be compounded by its composition, which will be over-representative of rural and Southern regions, men coming from more deprived groups of American society, and sons of military fathers (p.276).

Later, Moskos (1977) discussed the creation of the all-volunteer force would result in the military losing status as an institution and be viewed more as an occupation. Individuals enlisting in the armed forces would no longer be motivated by patriotic duty or honor; they would instead view military service as a job (Moskos). According to Woodruff, Kelty, and Segal (2006), this can be viewed as a continuum with institutional and occupational orientations existing at either end. Institutional values include an emphasis on group cohesiveness, a sense of pride, and professional conduct while occupational values are based in self-interest and are externally motivated (Woodruff et al.).

Since the creation of the all-volunteer force, a considerable amount of research speaks to changes in the racial composition of the military, factors influencing the propensity to enlist, and specific motivations for enlisting. Teachman, Call, and Segal (1993) note a shift in racial composition occurred after the advent of the all-volunteer force. Prior to its development, African-Americans comprised approximately 11% of the military but by the middle of the 1980's this proportion had risen to nearly 30%. Bachman, Segal, Freedman-Doan, and O'Malley (2000) expanded on this finding acknowledging enlistees were more likely to come from below average socioeconomic backgrounds, non-suburban areas, regions other than the West or Northeast, received mediocre grades in high school, and have low college aspirations. Woodruff et al. (2006) noted the propensity to enlist in the military is a strong statistical predictor of actual service and

rendereding other insignificant. Historically, the propensity to enlist has been highest among males, African-Americans, Hispanics, and those seeking training outside of a traditional school setting (Woodruff et al.). For high school seniors, 70% of those who expressed a high desire or likelihood to serve entered the military within six years of graduation (Bachman et al.; Woodruff et al.).

Temporal and subgroup factors influencing propensity for enlistment have not been not historically consistent (Segal, 1999). Acknowledging changes in the world situation, the domestic economy, and the availability of recruiting resources, six phases have been proposed:

1. Beginning with the advent of the all-volunteer force and lasting until 1976, this phase was characterized by high pay, enriched recruiting resources, and high unemployment for the military age-eligible cohort. Recruiting activities were successful with enlistees increasingly including females and those from minorities (Segal)
2. Ending in 1980, the second phase was characterized by caps on military pay, the replacement of the education-oriented G.I. Bill with a program requiring a contribution from the serviceperson, and decreasing youth unemployment. Despite a growing military age-eligible population, some services missed recruiting objectives (Segal).
3. In reaction to the second phase, the third phase (1980 to 1983) saw increases in military pay and the authorization of a new G.I. Bill. Despite a decreasing pool of age-eligible individuals, the quality and quantity of enlistments was high (Segal).
4. Even while characterized by a decline in pay comparability with civilian jobs, a continued decline in the youth population, and declining unemployment, the fourth phase (1983 to 1987) was characterized by a continued increase in enlistee quality (Sega).

5. During the fifth phase (1988 to 1990), non-prior service enlistments were noted to decrease in the face of a declining age-eligible pool, high civilian wages, and low unemployment. Force levels were largely maintained by reenlistments (Segal).
6. The sixth phase, beginning in the early 1990's, is characterized by a downsizing of the military and military operations in the Persian Gulf. Due to an expanding economy, low youth unemployment, and the increase of nontraditional military operations, recruiting is noted to have been difficult. Consequently, recruiting goals and enlistment standards, i.e., high school diploma, have been lowered. (Segal).

Comparing data gathered from 1976 through 1997, the propensity for service gradually decreased among African-American males since 1991 and while once higher than Caucasians and Hispanic males, this difference no longer existed (Segal). Incentives for enlisting had a consistent effect on the propensity of male Caucasians, African-Americans, or Hispanics to enlist across all of the identified phases. The authors also noted that the increase of nontraditional missions, including multinational peacekeeping make it difficult to convince potential enlistees that military service is in the national interest, a phenomenon most prevalent in the sixth phase (Segal).

Other research has attempted to develop a more comprehensive understanding of the motives influencing individuals to join the military. Lawrence and Legree (1996) noted that agreement regarding motivational categories has been so consistent a stable set of variables could be identified. Motivational categories included: 1) a desire for self-confidence and self-respect based on successful performance under stress, 2) a desire to remove oneself from society and gain a new perspective on life, 3) pragmatic considerations of enlistment including financial incentives, job-training, and educational benefits, 4) a desire to serve including the protection of family and community from a specific threat, and 5) the desire to escape from environmental and economic conditions. Rewards such as travel, retirement benefits, healthcare

benefits, or job security do motivate some individuals to join but these can often be "comfortably subsumed into one of the above major groupings" (Lawrence and Legree, 1996, p. 4).

Eighmey (2006) noted previous perspectives on enlistment overly emphasized material and job-related factors as primary influencers of military enlistment. Subscribing to the concerns articulated by Moskos (1977), he discussed the advent of the all-volunteer force would result in an emphasis on extrinsic occupational concerns such as comparative pay, the acquisition of technical training, working conditions, and incentives to the detriment of institutional concerns. However, results indicated intrinsic institutional factors including duty to country, loyalty, and commitment, continued to play a significant role in the decision to enlist and these factors were more strongly associated with military enlistment (Eighmey, 2006). Using data from the 2001, 2003, and 2004 Department of Defense Youth Polls, findings indicated:

> The leading factors relating to military service appear to be value-driven themes that could be said to reflect larger social or institutional perspectives. The rating-scale items that address the more material concerns of pay and specific job benefits were generally found among the secondary themes in the factor analysis results (Eighmey, 2006, pp. 323).

Seven themes were identified in the discussion of this study. They included organizational-oriented themes of *benefits*, *dignity*, *challenge*, and *adventure*, as well as institutional-oriented themes of *fidelity*, *risk*, and *family*. Major themes included fidelity, dignity, and to a lesser extent, benefits (Eighmey). Fidelity was considered to be the desire to do something positive for their country, make a positive difference in their community, or engage in behaviors consistent with their values and beliefs (Eighmey). Dignity included doing something the individual could be proud of, working with people they respect, and working in an environment free of sexual or racial discrimination (Eighmey). Benefits, the third major theme included having a having a good job allowing for a comfortable lifestyle, personal freedom, security, money for college, learning a skill, preparing for a future career, and a benefits package (Eighmey). Ultimately, a integrated typology of youth enlistment was proposed to describe *self-oriented* versus *other-oriented* goals delineated by sub-dimensions of *material* or *value-oriented* benefits. This typology is presented in Table 2.3 below (Eighmey, pp. 325):

Table 2.3 Typology of Youth Enlistment

Goal Types	Material Benefits	Value-Oriented Benefits
Self-Oriented Goals	Benefits for Self Good Pay Good Lifestyle Prepare for Future	Dignity Personal Achievement Respect for Self Respect for Others
Other-Oriented Goals	Benefits for Others Protection Assistance Democratic Systems	Fidelity Duty to Country Leadership Teamwork

In the midst of these findings, the influence of social-selection theory or self-theory on the propensity of individuals to enlist in the military has been evaluated. Defining these two theories, self-selection theory proposes individual characteristics predispose individuals to affiliate with certain groups more than others. According to Suczek (1970):

> The importance of self-selection in any case lies in the fact that the people involved bring some uniform characteristics to the situation, and this factor is what makes the college, the occupation, the major, what it is and what tends to perpetuate it in that form (pp. 608).

Sedofsky (2000) identifies social selection as a process involving decision making about individuals over which they have no control. It is a perspective emphasizing structural factors and how these factors influence differences (Sedofsky). Tessler et al. (2003) offer a similar perspective discussing that social selection identifies how pre-existing factors influence how individuals are sorted into social groups. They further note these factors can point to areas of resilience or vulnerability which are "causes rather than consequences of the social status" (Tessler et al., 2003, pp. 510.). Although the amount of literature used to inform this discussion could be bolstered, a preliminary discussion of the influence of these perspectives will be offered.

The social selection perspective appears applicable to the recruitment of individuals into the armed forces. The use of incentives, the promise of benefits, and the proposition of steady employment support Moskos (1973) and Janowitz's (1975) concerns that economically marginalized groups would be targeted by the all-volunteer force. The disproportionate numbers of African-American enlistees in the military provide additional support for these premises (Teachman et al., 1993). Finally, the enlistment fluctuations noted by Segal (1999) corresponding to the increase or decrease in financial incentives and benefits provide tentative evidence for the

social selection perspective as well. As larger structural variables including unemployment and civilian wages fluctuated and the military provided a viable alternative for economically marginalized individuals, enlistment goals were met. When larger economic conditions favored high civilian wages and employment, enlistments were largely noted to decrease (Segal).

An additional preliminary argument for a social selection perspective of enlistment in the military can also be based on racial discrimination. Noted earlier, the United States military was more racially progressive than other institutions in the United States (Ricks, 1997) and this environment may have influenced the overrepresentation of African Americans. Revisiting the research conducted by Eighmey (2006), one aspect of the *dignity* factor theme influencing youth to enlist was an environment free of discrimination.

Research also supports a self-selection theory perspective of enlistment. Military personnel are above average in patriotism, nationalism, conservatism, and traditionalism (Bachman et al., 2000). Investigating whether these characteristics were attributable to self-selection or socialization, it was determined self-selection influenced differences between military and civilians (Bachman et al.). For all of the dimensions studied, including preferences for military spending and influence, need for military supremacy, acceptable conditions for military intervention, and views about unquestioning obedience by servicemen, self-selection was evident. Considering the inconsistent influence of socialization, when socialization effects were identified, they enhanced preexisting differences (Bachman et al.).

Hammill, Segal, and Weschler (1995) noted the influence of self-selection on the value orientations of first year cadets at the United States Military Academy at West Point. The authors identified an overwhelming degree of consensus among the participants regarding values of self-direction and conformity. Individuals were more similar to career-oriented military personnel than civilians and even members of the National Guard (Hammill et al.). While this result could also be due to institutional recruiting practices, the authors noted the self-selection process appeared influential on the decision to join the military and to attend West Point (Hammill et al.).

Ultimately, a preliminary assessment is the processes of social selection and self-selection influence the decision of some individuals to enlist in the military. In their evaluation of United States Army advertising materials, Padilla and Laner (2002) identified themes including job/career/education, social status, money, and others, opportunities lacking for some marginalized groups. Therefore, developing educational and financial incentives for enlistment and promoting them to social groups who lack these resources is an example of social selection. An additional example is that the military also promoted service as an avenue to increased social status and long-term employment (Padilla and Laner), opportunities also lacking for some marginalized social groups.

Support is also available for the self-selection perspective of enlistment in the military. Using recruitment themes of adventure/challenge, patriotism, and opportunities for travel (Padilla and Laner, 2002), the military attempts to attract individuals predisposed to seek these opportunities. In short, individuals who already possess a sense of patriotism, seek adventure or challenge, or enjoy traveling may view the military as a good fit for them. However, the earlier discussion regarding the propensity to enlist (Segal, 1999; Bachman et al., 2000; Woodruff et al., 2006) and motivations to enlist (Lawrence and Legree, 1996; Eighmey, 2006) support the influence of both the social selection and self-selection perspective. Ultimately, Padilla and Laner (2002) agree discussing that Army advertising materials can be viewed as attempting to meet both the needs of the system and the needs of the individual.

2.3 Service Utilization by Veterans who are Homeless

2.3.1 Introduction

The next section of the review evaluated prior research investigating the use of services by veterans who are homeless. Given the scope of veteran homelessness in the United States, a considerable amount of research has evaluated this social problem. In Chapter 1, an overview of prior research established the size of the veteran homeless population and basic characteristics of veterans who are homeless (Robertson, 1987; Rosenheck et al., 1991; National Coalition for Homeless Veterans, 2004). Additional research evaluated factors contributing to veteran

homelessness (Rosenheck et al., 2001; Tessler et al., 2002; Mares and Rosenheck, 2004) and attempted to determine if the risk of homelessness differed between veteran subgroups (Rosenheck et al., 1994; Gamache et al., 2001; Tessler et al., 2003). Final aspects of this overview of veteran homelessness identified policy and programmatic efforts to assist this population as well as a brief overview of service utilization rates, outcomes, and barriers. This subsequent review will delve deeper in prior research investigating the phenomenon of service utilization.

2.3.2 Service Utilization by Veterans who are Homeless

A number of programs have been developed to assist veterans who are homeless (Lloyd-Cobb and Dixon, 1995; VA, 2006) and a body of prior research exists regarding their use of these services. However, challenges existed to summarizing prior service utilization research including the variation in study samples used and the inconsistent operationalization of utilization (Lemming and Calsyn, 2004). For this review, these challenges were present but it was possible to summarize this research in terms of rates, outcomes, and statistical correlates / predictors of service use. It was also possible to further delineate predictors of service use in terms of whether a theoretical model was utilized or not.

2.3.2.1 Rates and Patterns of Service Use

Several studies identified for this review discussed rates of services use by veterans who were homeless and considered psychiatrically impaired. Rosenheck, Leda, and Gallup (1992) evaluated two groups of homeless Vietnam veterans and found significant differences in service utilization between them. The first group, veterans diagnosed with *combat stress*, used significantly more outpatient mental health, emergency room, and readjustment counseling services than veterans not diagnosed with combat stress but possessing other psychiatric disorders. Veterans diagnosed with combat stress also used more VA psychiatric and substance abuse services. However, in the midst of these findings the authors also noted the overall low rate of mental health utilization by mentally ill Vietnam veterans (Rosenheck et al.). In a more recent study, homeless veterans diagnosed with schizophrenia or bipolar disorder were

significantly more likely to have a 12-month gap in mental health treatment than veterans who were not homeless but suffered from the same conditions (McCarthy et al., 2007).

Additional comparative research included McQuire, Rosenheck, and Kasprow's (2003) assessment of veterans who were homeless compared with recently incarcerated veterans. Considering the burden of serious medical, alcohol, drug, or psychiatric problems reported by the homeless sample, high rates of reported service utilization are understandable. Of the 6,560 veteran respondents, 84.0% had used some kind of VA mental health or medical / surgical service within one year of being assessed by an outreach worker (McQuire et al.). For mental health services, 75.0% of the sample had used outpatient mental health services, 6.0% mental health inpatient, and 11.0% used residential mental health care. Outpatient medical / surgical services were used by 60.0% of the homeless sample and inpatient care was used by 6.0%. Compared with previously incarcerated veterans, homeless veterans were more likely to use any VA services with the greatest differences being found for outpatient services.

Comparing literally homeless, those temporarily *doubled up* with family and/or friends, and domiciled veterans, Rosenheck and Seibyl (1998) assessed the use of VA services before and after discharge from general psychiatry and substance abuse programs. Findings indicated literally homeless veterans discharged from general psychiatry programs used more psychiatric inpatient days and were readmitted more frequently after the discharge than domiciled veterans. A similar pattern was also noted among homeless veterans discharged from substance abuse programs with higher levels of inpatient service use and longer lengths of stay during the admission. Homeless veterans also used more outpatient services than domiciled veterans in the 6 months after discharge (Rosenheck and Seibyl).

Two final studies provided some insight into the rates of assistance service use by veterans who are homeless in comparison to non-veteran who are homeless. O'Toole et al. (2003) identified more veteran's possessed chronic medical conditions, 2 or more mental health problems, hepatitis and cirrhosis, and a diagnosis of PTSD versus non-veterans. Given these needs, veterans used significantly more shelter-based or street outreach services. Non-veterans

were significantly more likely to utilize a community clinic or emergency room as their usual source of care (O'Toole et al.). Kushel et al. (2001) also identified differences between these two groups in terms of the outpatient, emergency, and inpatient medical care utilization but they were not statistically significant. However, a key finding noted that although 89.0% of veterans reported an honorable discharge, almost half reported no insurance and only one-fourth had VA insurance. Revisiting O'Toole et al. (2003), a similar amount of veterans (59.1%) reported needing VA benefits but without an assessment of their discharge status it is difficult to evaluate the significance of this finding.

2.3.2.2 Outcomes of Veteran Service Utilization

An additional theme of the service utilization research identified for this study included outcomes of programs for homeless veterans. Here, the literature could most readily be summarized in the context of the program being evaluated. Specific services included VA vocational rehabilitation, supported housing, domiciliary care for homeless veterans, and VA substance abuse and dual diagnosis programs. Other sources discussed program outcomes across the VA continuum of care. Given the emphasis on these programs on treating different problems experienced by homeless veterans, populations differed between studies but it was possible to gain an overall perspective of the effectiveness of these services.

In terms of vocational rehabilitation (VR), Mares and Rosenheck (2006) evaluated the Therapeutic Employment Placement and Support Program (TEPS), a VA VR program emphasizing rapid job placement with individualized support and on-the-job training as needed. Participants were homeless veterans receiving a range of services through the VA and were recruited through the Health Care for Homeless Veterans program (HCHV). They were mostly male (93.0%) and reported high rates of mood disorder (35.0%), personality disorder (35.0%) and substance abuse problems (83.0%). Evaluating 12-month outcomes of this low-demand employment program, 37.0% of the sample were competitively employed and 23.0% were noncompetitively employed (Mares and Rosenheck). At the 24-month follow-up, competitive employment rates decreased to 27.0% while noncompetitive rates dropped to 20.0%. Compared

with other, widely used service models, the results of this study were below other widely implemented models including the Program of Assertive Community Treatment or the club-house program (Mares and Rosenheck), other approaches to vocational rehabilitation for people with histories of mental illness (International Center for Clubhouse Development, n.d.; Assertive Community Treatment Association, n.d.)

Given the high rates of mental illness and substance abuse problems among veterans who are homeless, residential rehabilitation programs such as the Domiciliary Care for Homeless Veterans Program (DCHV) were established by the VA to meet these needs (Justus et al., 2006). General goals of the DCHV are to assist homeless veterans achieve increased levels of independence which generally involves returning to work and obtaining housing (LePage et al., 2006). In pursuit of this goal, clients participate in a number of classes, therapies, and experiences which are designed to increase lifestyle skills. Evaluating a DCHV program in Los Angeles, Justus et al. (2006) reported that of 596 homeless veterans who entered the program, 25.1% completed and 15.1% graduated. No discussion was provided regarding the difference between *completion* and graduation, only that they were conceptualized as indicators of program retention. Highest retention, completion and graduation rates were among women and residents in their 20's. Correlates with a successful outcome included a diagnosis of depression and prior treatment for a substance abuse treatment. A diagnosis of a personality disorder was associated with an unsuccessful treatment outcome (Justus et al.).

While also set within the VA DCHV, LePage et al. (2006) did not assess ultimate program outcomes but those of a unique programmatic intervention. Noting the importance of the treatment environment, a contingency management intervention was utilized in pursuit of three goals:

1. Increase focus and participation in lifestyle behaviors
2. Improve patients participation in altruistic acts
3. Improve the treatment environment

Using incentives, significant increases in recreational, social, educational, and spiritual/coping activities were noted. Results also indicated a significant increase in self-reported altruistic activities and an improved treatment environment (LePage et al.). While the results of this study were promising, no attempts were made to empirically link this intervention to retention, completion, and graduation outcomes as identified by Justus et al. (2006). However, given the link between superior treatment environments and improved readmission and drop-out rates, higher employment, and lower recidivism (LePage et al.), it was a promising finding.

A final study assessing outcomes of residential care for homeless veterans included Kasprow, Rosenheck, Frisman and Dilella's (1999) comparison of programs addressing substance abuse (SA) and both substance abuse and psychiatric problems / dual diagnosis (DDX). National data was collected nationally from residential facilities contracted by the VA and included 1,495 homeless veterans distinguished as *psychotic* or *non-psychotic*. Results indicated no significant difference existed between these programs in terms of length of stay, percentage of successful discharge, and employment at discharge. However, significantly more of the substance abuse program participants left without consult or were discharged to an institution while more dual diagnosis program participants were discharged to housing (Kasprow et al.).

Additional findings identified 32.8% of psychotic patients successfully completed substance abuse treatment while 37.8% completed dual diagnosis treatment. For non-psychotic clients, 49.1% successfully completed both substance abuse and dual diagnosis treatment programs (Kasprow et al., 1999). Remaining clients from both programs were discharged as the result of a rule violation or left without consult. Among clients leaving under these conditions, psychotic clients outnumbered non-psychotic clients for both substance abuse and dual-diagnosis treatment programs (Kasprow et al.). While no critical judgment is made of these discharge outcomes, given the problems experienced by the SA and DDX program clients, a more thoughtful assessment of these outcomes would have been desirable.

Final sources of information regarding outcomes of programs for homeless veterans included an assessment of supportive housing, treatment outcomes for a typology of homeless

veterans, and a case study regarding the outcomes of service system integration. Noting the increased acceptance of low-demand supportive housing models, Mares and Rosenheck (2004) evaluated if outcomes differed between clients who completed time limited residential treatment prior to housing placement and those who had no treatment. Outcomes assessed by the study included status of: 1) housing tenure, 2) program discharge 3) housing at discharge, and 4) employment at discharge (Mares and Rosenheck). Findings indicated although this housing is designed to be permanent, the average length of stay was 15 months. Additionally, only half the clients remained in the program 1 year after placement with retention dropping to 20.0% at 2 years and 10.0% at 3 years. However, the major finding of the study was that individuals who received residential treatment prior to housing placement did not show better outcomes lending support to the supportive housing model versus the traditional residential continuum model (Mares and Rosenheck).

In an earlier study, Humphreys and Rosenheck (1998) evaluated service outcomes of a group of veterans classified as *alcoholic*, *psychiatrically impaired*, *multi-problem*, and *best-functioning*. The use of this typology acknowledged veterans who are homeless are not homogenous and proposed the research might inform programs and policies sensitive to these characteristics (Humphreys and Rosenheck). Outcomes were linked to the primary problem area experienced by the client, employment status, and residential quality. Findings indicated all clients groups still experienced problems at follow-up, underscoring the needs of the sample. However, overall improvement was noted in the number of days employed and a significant increase in residential quality (Humphreys and Rosenheck).

A final study of interest regarding outcomes of services for veterans who are homeless includes Nakashima, McGuire, Berman, and Daniels' (2004) case study of system integration efforts at the VA Greater Los Angeles Healthcare System. Efforts were driven by the unmet needs of homeless veterans in the area, the use of inpatient medical beds as de facto housing, and the high readmission rates due to a lack of housing (Nakashima et al.). Using a Political Economy model; technological, economic, and power considerations involved in designing and

implementing a more effective response to veteran homelessness were identified. Empirical data indicated this effort was successful creating 906 new residential units for homeless veterans. Additionally, the average medical inpatient length of stay decreased 28.0% while the average psychiatric inpatient stay decreased 35.0% over a four year period. For clients themselves, 58.0% of veterans treated in residential care were placed in housing at discharge and 47.0% were employed (Nakashima et al.). However, no follow-up data was provided to determine whether individuals remained housed or employed.

2.3.2.3 Predictors of Service Utilization by Homeless Veterans

In addition to prior research discussing rates and outcomes of service utilization, empirical research assessing predictors of service use was evaluated during this review. Essentially, previous sections of the review assist in developing a perspective on the density of service utilization and outcomes of that utilization. This final section offers a more sophisticated assessment of utilization by identifying characteristics found to statistically predict or be associated with utilization. Initially evaluating this body of literature revealed many studies utilized a consistent model of service use while some remained atheoretical. For the purposes of this review, atheoretical studies will be discussed initially followed by those using a conceptual model of service utilization.

Among the sources selected for this aspect of the literature review, Frueh, Monnier, Hamner, Elhai, and Knapp (2004) did not utilize a theoretical model in their assessment of service utilization. Evaluating a sample of veterans with a diagnosis of Post Traumatic Stress Disorder (PTSD), the study assessed if utilization differences existed between homeless African Americans and Caucasians. African Americans and Caucasians were not significantly different on measures of anxiety, PTSD, depression, anger and hostility, psychotic symptoms, and dissociation. Further analysis revealed no association existed between race and visits to PTSD outpatient, primary care, or specialty clinics and that race was not associated with VA disability rating (Frueh et al.). In consideration of these findings, the authors suggested that treatment-

seeking African Americans are similar in regards to “symptom manifestation” (Frueh et al., 2004, pp. 29) and their use of services.

Other studies assessing correlates and predictors of service use utilized a common conceptual model of service utilization, the Behavioral Model of Health Services Use (Anderson, 1995). Developed in the late 1960’s, the original incarnation of the model intended to assist in understanding “why families use health services; to define and measure equitable access to health care; and to assist in developing policies to promote equitable access…” (Anderson, pp. 1). The model viewed the utilization of health services as an individual behavior but unlike other perspectives, it took into account both societal and individual determinants of care (Anderson and Newman, 2005).

The focus of the Behavioral Model is on evaluating the utilization of services, measuring service access, and promoting access though equitable health policy. The framework proceeds from “health policy objectives, through the characteristics of the health care system and the populations at risk considered to be inputs, to the outcomes or outputs: which is the utilization of health care services and consumer satisfaction with these services” (Aday and Anderson, 1974). A graphical depiction of the initial conceptualization of this model is presented below:

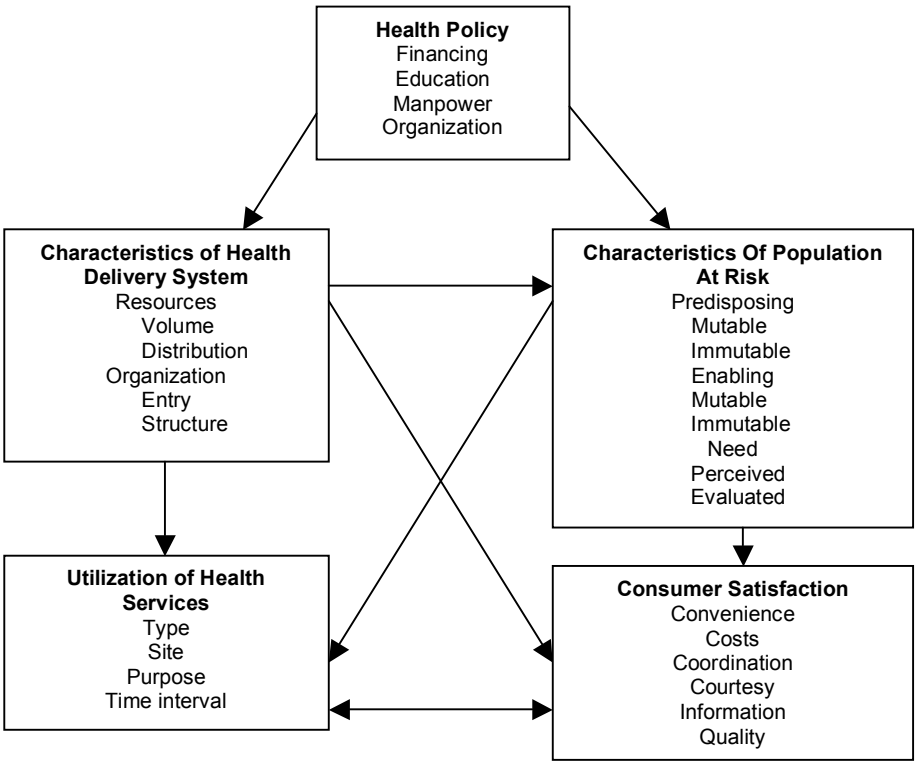

Figure 2.1 This diagram outlines the key components of the Behavioral Model of Health Service Use.

Deconstructing the Behavioral Model, health policy is conceptualized as the starting point because health policy often intends to increase access to health care (Aday and Anderson, 1974). Policy priorities are then considered to influence characteristics of the delivery system including the labor and capital resources devoted to health care and the manner in which these resources are structured (Aday and Anderson). Characteristics of the population at risk are the predisposing, enabling, and need-based factors conceptualized as individual determinants of service. Predisposing factors can include variables such as age, race, gender, beliefs about illness, etc., while enabling factors are the resources available to the individual to access to healthcare (Aday and Anderson). Some predisposing factors and enabling factors are considered mutable and within the framework of the behavioral model, health policy has the ability to alter these factors. Some predisposing and enabling factors are not mutable and are “more properly

considered delineators of groups for whom access differs than descriptors of access per se." (Aday and Anderson, pp. 215). The final individual determinants of service use are the need-based factors which are perceived and evaluated measures of illness. According to the authors, need-based factors are the most immediate cause of healthcare use (Aday and Anderson).

The final two components of the Behavioral Model include the use of health care services and satisfaction with those services. Illustrating the continued relationship between the model components, characteristics of a delivery system have a direct influence on utilization and satisfaction for reasons including unavailability of providers, lengthy lines, or the inconvenience of transportation (Aday and Anderson). Alternately, characteristics of the population including gender, age, income, education, and attitudes towards health care, are also considered to have an impact on the use of services and satisfaction with those services (Aday and Anderson).

Since its development, the Behavioral Model of Health Services Use has been modified (Anderson, 1995). A key revision was the development of the Behavioral Model for Vulnerable Populations to include domains relevant to vulnerable populations (Gelberg, Anderson, and Leake, 2000). Noting challenges experienced by people who are homeless including mental illness, substance abuse, victimization, social isolation, and inadequate housing, it was discussed these problems increase the need for services while limiting the ability to obtain them (Gelberg et al.). Consequently, individual predisposing, enabling, and need-based characteristics were expanded beyond the *traditional* domain to include a *vulnerable* domain as well. Table 2.4 illustrates examples of the traditional domains of predisposing, enabling, and need-based factors as well as examples of the vulnerable domains proposed by Gelberg et al. (2000).

Table 2.4 Behavioral Model for Vulnerable Populations

Factor	Traditional Domain	Vulnerable Domain
Predisposing	Demographic Age Sex Marital Status Past Illness Social Structure Education Race Occupation Residential Mobility Beliefs Values about Health / Illness Attitudes about Health Services Knowledge About Disease	Social Structure Country of Birth Acculturation/Immigration Sexual Orientation Childhood Characteristics Homelessness Living Conditions Mobility Criminal History Mental Illness Victimization Psychological Resources Substance Abuse
Enabling	Family Income Insurance Type of Regular Source of Care Access to Regular Care Community Community Resources Price of Health Services Region of Country	Personal/Family Resources Competing Needs Hunger Public Benefits Ability to Negotiate System Case Manager Transportation Telephone Information sources Community Resources Crime Rates Social Services Resources
Need-Based/ Illness	Perceived Disability Symptoms Diagnosis General State Evaluated Symptoms Diagnoses	Perceived Disability Symptoms Diagnosis General State Evaluated Symptoms Diagnoses

Since its development, the Behavior Model has been used extensively in researching the use of services by people who are homeless (Padgett, Steuening, and Andrews, 1990; Calsyn and Roades, 1993; Pollio, North, Eyrich, Foster, and Spitznagel, 2003; Wenzel et al., 2001; Lemming and Calsyn, 2004; Lemming and Calsyn, 2006, Stein, Anderson, and Gelberg, 2007; Wong, 1999; Gelberg et al., 2000). Most of these studies explicitly assessed the relationship between population characteristics, i.e., predisposing, enabling, need-based factors, and the use of services. To demonstrate the utility of the Behavioral Model, studies will be presented which used veteran and non-veteran populations.

Findings from these studies provided insight into the correlates and predictors of service use by people who are homeless. In an assessment of community-based services, Wong (1999) identified segments of the homeless population utilizing few services despite considerable need.

They were more likely to be male, non-white, episodically homeless, sleeping outdoors, and experiencing an alcohol problem. Assessing access to inpatient and residential substance abuse treatment, Wenzel et al. (2001) identified that need-based factors were important in predicting service access but the odds of accessing treatment were greater for enabling factors including public insurance and a history of previous treatment. Consistent with Wong (1999), the author's general assessment is that for access to substance abuse treatment to be equitable, the influence of enabling factors should be minimized.

Other studies utilized the Behavioral Model to assess service utilization and service access across a variety of service domains. Lemming and Calsyn (2006), examined the ability of the Behavioral Model to predict use of medical, psychiatric, substance abuse, housing, and public support services. At the 12 month follow-up, significant predictors of medical service use included higher perceived need, high levels of natural support, and being male (Lemming and Calsyn (2006). Psychiatric service use at the 12 months follow-up was predicted by higher perceived need, higher levels of natural support, being schizophrenic, and psychiatric service use at baseline. In the midst of these and other findings, the authors noted variables predicting one service will not always predict the use of another service and that self-perceived need for services continues to be an important predictor of service utilization Lemming and Calsyn (2006).

In a similar study, Pollio et al. (2003) distinguished between service domains but unlike Lemming and Calsyn (2006), did not include medical services as a dependent variable. Findings confirmed service utilization is a complex phenomenon as the statistical model including all predisposing, enabling, and need-based factors represented "the most complete and parsimonious construct for understanding service access" (Pollio et al., 2003, pp. 493). However, it was also noted that needs-based factors, while strongly predicting service use of psychiatric and substance abuse sectors, had no predictive power in accessing homelessness maintenance or amelioration services. Given these need-based factors included length of homelessness and number of homelessness cycles, implications included additional outreach efforts to engage homeless individuals.

Other studies used the Behavioral Model to predict homelessness assistance service utilization specifically focused on veterans who are homeless. For all of these studies, a variety of predisposing, enabling and need-based factors were identified and used logistic or linear regression models to test service use. Wenzel et al. (1995) evaluated characteristics of veterans admitted to a Domiciliary Care for Homeless Veterans Program as predictors of service utilization. Services were distinguished as medical / surgical and psychiatric / substance abuse and differentiated on the source of care including inpatient, outpatient, VA, and non-VA. Research hypothesis stated need-based factors would be the most strongly associated with the use of all services (Wenzel et al.). However, acknowledging the barriers to services services experienced by many people who are homeless, it was also hypothesized predisposing and enabling factors would also affect the use of services by homeless veterans (Wenzel et al.).

Results indicated rates of service use were notable in the 6 months prior to DCHV admission and need-based factors were the most strongly related to the use of all services by homeless veterans (Wenzel et al., 1995). For medical / surgical services, self reported chronic medical condition status predicted inpatient, outpatient, VA, and non-VA service use. Similar findings were reported for psychiatric / substance abuse services with psychiatric status or substance abuse status need variables predicting the use of services. Revisiting the conceptualization of service access within the Behavioral Model, these results indicated access to services could be considered equitable (Anderson, 1995). However, variables measuring education, residential stability, and current living conditions were also predictive of service use. This finding supported the second hypothesis stating that enabling and predisposing variables also predicted service use – although to a lesser degree - and was indicative of service inequities (Wenzel et al., 1995).

In a similar evaluation of homeless veteran service utilization, Gamache, Rosenehck, and Tessler (2000), examined the importance of predisposing, enabling, and need-based factors as determinants of service utilization. Unlike Wenzel et al. (1995), this study focused solely on VA services and evaluated lifetime use of any VA services and specific services including psychiatric,

substance abuse, and medical services (Gamache et al.). Findings indicated predictors of use of any VA service included possessing a VA service-connected disability and VA pension. Other significant predictor variables included being African American, serving in Vietnam, and serving in a war zone in Vietnam.

The use of specific VA services was predicted by a variety of predisposing, enabling, and need-based factors. For psychiatric services, the only predictive predisposing factor included war zone service in Vietnam while the only predictive need-based factor included the need for psychiatric treatment. Enabling factors predicting the use of psychiatric services included VA disability benefits and access to a VA medical center (Gamache et al., 2000). VA substance abuse services were predicted by the predisposing variables of being African-American and service in the Vietnam era while problems with alcohol and having a dual diagnosis represented significant need-based variables. The final VA service sector, medical services were not predicted by any predisposing variable. Need-based and enabling variables predicting service use included assessment of health problems and having a service-connected disability (Gamache et al.). Summarizing these findings, the authors discussed "as one might expect in respondents with high levels of need, enabling factors were more important than either predisposing or illness factors in predicting VA service use" (Gamache et al., pp. 1027). In terms of evaluating access to VA services, veterans who received health care benefits and lived near VA medical centers were most likely to use services.

Two final studies of interest to this review included Elhai, Reeves, and Frueh's (2004) assessment of mental health and medical service use by veterans with combat-related Post Traumatic Stress Disorder (PTDS) and McCarthy et al.'s (2007, 3) evaluation of barriers to VA health system and mental health treatment service retention. While these studies did not exclusively evaluate homeless veterans, their findings are relevant to this review. Elhai et al. utilized a veteran population with PTSD and continuous measures of service utilization versus the dichotomous (yes / no) dependent variables used in other studies. Also a unique effort, McCarthy et al. (2007) offered a more sophisticated assessment of geographic accessibility and availability

barriers to health system and mental health treatment retention than studies identified earlier (Gamache et al., 2000).

For veterans with PTSD, no significant predisposing, enabling, or need-based factors predicted PTSD clinic or primary health care service utilization. However, need-based variables measuring anxiety predicted use of specialty care services (Elhai et al., 2004). Pre-disposing factors of being married and Caucasian were predictive of the number of psychiatric medications prescribed. Interpreting these findings, issues of accessibility appeared to exist within the VA service delivery system on the basis of marital status, race, and anxiety levels (Elhai et al.). Other findings presented by McCarthy et al. (2007) indicated although geographic accessibility and services availability influenced long term continuity of care, the overall effects were small. Consistent with other studies, predisposing and need-based factors were more substantial predictors of service use. Efforts to improve continuity of care for clients should focus on population characteristics associated with loss to care (McCarthy et al.).

2.3.3 Analysis of Service Utilization Literature

While previous service utilization literature provided insight into the use of services by veterans who are homeless, limitations were present nonetheless. A prime concern was the use of non-probability samples in the previous research, an approach limiting the generalizability of the studies (Rubin and Babbie, 2008). Of the service utilization studies reviewed previously, only Wong (1999), O'Toole et al. (2003), and Pollio et al. (2003) utilized a probability sampling strategy. Of these, only O'Toole et al. (2003) specfically utilized a veteran study population. Additional sampling concerns included the time frame the sample was obtained and the geographic location where participants were recruited. Rosenheck and Siebyl (1998) acknowledged service utilization by homeless veterans can change over the course of the year and by collecting data on a single date in early fall, "the number of homeless veterans seeking VA hospital care might have been greater in mid-winter, at least in northern regions" (pp. 1264). O'Toole at al. noted while using a probability sample, the urban setting of their study setting precluded generalizing findings to suburban or rural homeless subpopulations.

In the midst of these concerns, other limitations included a reliance on the use of clinical (Rosenheck et al., 1992) or agency-based samples (Kushel et al., 2001). Only Wong (1999), O'toole et al. (2003), and Pollio et al. (2003) recruited homeless participants from a variety of locations including shelters, soup kitchens, housing facilities, and the street. While it is obvious studies need to focus on specific subpopulations of people who are homeless and may require specific study settings, the impact of these issues on the transferability of the findings to the general homeless population is considerable.

Other limitations, identified by the author(s) themselves, included the use of self report data (O'Toole et al., 2003; Justus et al., 2006; LePage et al., 2006; Lemming and Calsyn, 2006; Wenzel et al., 1995) and concerns regarding the reliability and validity of the study measures (Kasprow et al., 1999; Mares and Rosenheck, 2004; Frueh et al., 2004; Mares and Rosenheck, 2006; Justus et al., 2006). Additionally, while some studies used a longitudinal design, the measurement interval was insufficient to evaluate longer term outcomes (Kasprow et al.; Nakashima et al, 2004; Frueh et al.,, 2004). Finally, for several of the program outcome evaluation studies cited within this review, the quasi-experimental design did not allow for the analysis of external factors which could have influenced the study result (Nakashima et al. 2004; LePage et al., 2006).

In the midst of these limitations, other concerns include a lack of replication among the studies and the lack of implications for policy, practice, and further research. No studies identified explicitly identified they were attempting to replicate previous research. Given this lack of replication and other concerns identified earlier, all relevant findings must be considered provisional and open to refutation (Rubin and Babbie, 2008). Additionally, much of the research evaluated for this review offered few pragmatic implications for practice, policy, or further research. Only Applewhite's (1997 and 1998) qualitative investigations of veteran social service use and coping and survival skills presented in Chapter 1 provided substantial, pragmatic implications to improve services for veterans who are homeless.

Despite these limitations, the current body of empirical literature does make a contribution towards an informed understanding of veteran homelessness. Studies initially cited in Chapter 1 identified basic characteristics of veterans who are homeless, differences between groups of veterans, and the prevalence of psychiatric, substance abuse, and medical difficulties experienced by this population (O'Toole et al., 2003). Prior research investigating service-use by veterans presented in this review provided insight into patterns of service use, program outcomes, and predictors of treatment retention and completion. Given these findings, one can *cautiously* and *tentatively* develop an understanding of veterans who are homeless and their use of services. However, the overriding contribution is that simple explanations of veteran homelessness and *cookie cutter* intervention strategies are unrealistic. Revisiting prior research identifying correlates and predictors of veteran service use, it is clear that a variety of factors influenced the use of services. Framed by the Behavioral Model, predisposing, enabling, and need-based factors have all been identified as predictor of service utilization. However, the influence of these factors varied from study to study and consistent themes are difficult to develop.

Revisiting the service utilization literature review, a final shortcoming is the deficit-based perspective of most prior research. No studies investigating the use of assistance services by veterans who are homeless assumed an explicit strengths-based perspective. While there is no doubt it is important to understand the incidence of debilitating conditions and their influence on service use, the absence of an alternate perspective is disconcerting. As noted by Applewhite (1997), veterans experience a number of resource-related problems in escaping homelessness including a lack of employment options and affordable housing, inadequate access to transportation, and even the availability of public restrooms. Posing an equal challenge are the public perception problems affecting veterans who are homeless including public rejection, dehumanization, prejudice, and a lack of respect (Applewhite). Final barriers noted by Applewhite (1997) – relevant to the use of services – are categorized as insensitive service providers, negative policies and procedures, and social service system. These included problems of service-

connected labeling, systematic denial of services, need to prove homelessness, long wait times, *runaround*, and a discouraging service system (Applewhite). Given these extrinsic obstacles, it appears obtaining and utilizing assistance services is based on more than whether the client needs them or is eligible, but also whether the client wants to negotiate these barriers to services. As noted by Shiner (1995), people who are homeless assess the perceived costs and benefits of service use and in general, "did not seek care because they could see little benefit is doing so" (p.540). When faced with bureaucracy, stigma, and insensitivity, the use of services could be understood as a willingness to negotiate these barriers while non-use of services can be interpreted as an unwillingness to tolerate them.

2.3.4 Hardiness and a Strengths-Based Perspective of Service Utilization

Given this gap in the knowledge base regarding the use of services by veterans who are homeless, additional strengths-based research is warranted. However, a concept considered adaptive and theoretically linked to the use of services must be identified. For this study, the personality trait of hardiness offered promise as a measurable strengths-oriented variable for evaluating the use of services by veterans who are homeless. Additionally, it was a construct which could be used to compare veterans and non-veterans who are homeless.

2.3.4.1 Overview of Hardiness

Generally, hardiness is considered a psychological resource moderating the effects of stress on physical and mental health and is characterized by the elements of commitment, control, and challenge (Kobasa, 1979). Smith and Meyers (1997) and Maddi (1999a) proposed hardiness could be grouped among other personality constructs including self-efficacy, sense of coherence, locus of control, optimism, and inversely with learned helplessness. Stronger conceptual connections can be made between hardiness and locus of control in that hardy individuals are explicitly considered to have an internalized locus of control (Sullivan, 1993; Almedon, 2005), hardiness scales and locus of control scales are similar (Clarke, 1995), and these measures were statistically correlated (Smith and Meyers).

In servicemen, hardiness has been shown to moderate the stress experienced by casualty assistance workers (Bartone, Ursano, Wright, and Ingraham, 1989), peacekeepers (Britt, Adler, and Bartone, 2001), military officers (Maddi, Brow, Khoshaba, and Vaitkus, 2006) and combat soldiers (Bartone, 1999; Florian, Mikulincer, and Taubman). Hardiness has also been evaluated in civilians and been shown to enhance the ability to cope with high levels of stress and promote health and performance among nurses (Judkins, 2004), corporate executives (Kobasa 1979; Wiebe and McCallum, 1986), the chronically ill (Okun, Zuta, and Robinson, 1988), and the elderly (Magnani, 1990). In consideration of this research, no published studies were located which measured hardiness in people who are homeless, veteran or not.

Hardiness is a multifaceted concept capturing a personality structure which helps buffer exposure to extreme stress and a breakdown in wellness (Earvolino-Ramirez, 2007, Maddi, 1999b). Initially conceptualizing the construct of hardiness, Kobasa (1979) hypothesized that hardiness is indicative of individuals who "possess a greater sense of control over what happens in their lives…feel committed to the various areas of their lives…and view change as a challenge…" (pp. 3 – 4). In the years since, other research has refined these initial propositions and note that hardiness "(a) promotes a view of life changes as less stressful, (b) elicits more effective coping strategies, (c) produces a more vigorous immune response, and (d) results in increased consciousness in terms of sound health practices" (Maddi, Kahn, and Maddi, 1998).

The general conception of hardiness is that although developed early in life and relatively stable over time; it is amenable to change (Bartone, 2006; Bartone, 1999). As individuals are encouraged to believe adversity can be turned into opportunity and given opportunities to observe this process, it is possible to increase hardy attitudes of commitment, control, and challenge (Khoshaba and Maddi, 1999). As the concept of hardiness has been developed, training models have developed where participants use techniques of reframing, focusing, and compensatory self improvements to cope with stressful situations (Maddi et al., 1998). When compared against relaxation/meditation or passive listening approaches to stress reduction or coping, hardiness training resulted in increased hardiness and decreased subjective strain and illness severity

(Maddi et al.). In regards to members of the armed forces, Bartone (2006) proposed hardy leaders who used examples and discussion to reconstruct stressful experiences influence how these experiences are understood, essentially increasing hardiness. This process was also expected to result in an increased sense of shared values, mutual respect, and group cohesion (Bartone), outcomes previously established as desirable by the military (Ricks, 1997; Burke, 2004). Considering the training of Special Forces, Maddi (2007) proposed the assessment of hardiness and the use of hardiness training approaches could improve performance and motivation as well as decrease attrition.

2.3.4.2 Measuring Hardiness

Since its development, a variety of instruments have been used to measure the concept of hardiness. Initially, Kobasa (1979) measured hardiness using a composite questionnaire including four different instruments for control, two for commitment, and four for challenge dimensions. Up to 19 different scales have been used to measure hardiness which were then narrowed to five used to develop the 71-item Unabridged Hardiness Scale (UHS) (Funk, 1992). In 1982, two short forms of the UHS were developed including the 20-item Abridged Hardiness Scale (AHS) and the 36-item Revised Hardiness Scale (RHS). Drawing directly from the UHA, these forms also provided a composite hardiness score while the RHS also provides scores for the commitment, control, and challenge dimensions (Funk).

Subsequent psychometric refinements in the measurement of hardiness included the development of the 50-item Personal Views Survey (PVS) and the 45-item Dispositional Resilience Scale (DRS) (Funk, 1992). These “third generation” (Funk, pp. 336) hardiness scales were developed to rectify concerns regarding previous scales and superseded earlier hardiness measures. These scales utilized the same basic format with items from the DRS appearing in reworded or identical forms in the PVS (Funk, 1992). As with many of the earlier hardiness measures, both of these scales offered an overall measure of hardiness as well as separate assessments of commitment, control, and challenge (Funk). Alpha coefficients for the DRS-45

composite has been reported at .85 with the three dimensions ranging between .62 and .82 (Harris, 2004).

More recent developments in hardiness measurement included Bartone's (1991) psychometric refinement of the original 45-item Dispositional Resilience Scale (DRS) into 30 and 15-item instruments. Addressing continued criticisms of hardiness measures, the 30-item DRS balanced negatively and positively worded items and used an equal number of items for each of the three dimensions (Bartone, 1991). These refinements intended to yield a "positive indicator of hardiness" (Bartone, 1991, pp.5) and allowed investigators to simply calculate a raw score for the instrument versus the original scoring strategy which included aggregating standardized Z scores (Bartone, 1991). Subsequent item and reliability analyses resulted in the 15-item DRS which was purported to fill the need for "an accepted, standard tool for measuring it [hardiness]" (Bartone, 1995, pp. 2). Using item and reliability analyses, Bartone (1995) discussed that the DRS-15 possesses good psychometric properties and there was evidence that it is a valid measure of the hardiness construct.

2.3.4.3 Criticisms of the Hardiness Construct and Measurement

Throughout the development of the construct of hardiness and hardiness measures, debate has existed regarding its validity as a construct. In 1987, Funk and Houston (1987) identified a lack of evidence in early research supporting the role of hardiness as a stress buffer. They discussed the negative indicators used in early scales appeared to be measuring maladjustment versus hardiness (Funk and Houston). Additional criticisms included the failure of hardiness subscales to consistently reproduce the three dimensions of commitment, control, and challenge as well as the use of inappropriate statistical techniques. Several of these criticisms were echoed by Hull, Treuren, and Virnelli (1987) including their doubt regarding the unity of the hardiness construct. Citing 5 studies which reported subscale scores for the 3 hardiness dimensions, only commitment had predictive effects in all 5 studies. Control was noted to have had predictive effects in 4 of the 5 studies while challenge only had predictive effects in one study (Hull et al.). In a later study, Hull, Lehn, and Tedlie (1991) contributed to this early criticism by

illustrating that 2 of the 5 original scales used in early hardiness research failed to be significantly associated with the theoretical hardiness latent variable.

Criticisms of hardiness continued as Lambert and Lambert (1999) found issues with the diverse number of instruments used to measure hardiness and a lack of qualitative research on hardiness. The authors also noted most hardiness research included Anglo-Saxon, English speaking men and women, leading to questions regarding the measurement of hardiness and gender, age, or ethnicity (Lambert and Lambert). Similar bias concerns were also raised by Low (1999) who asserted that the conceptualization of hardiness is flawed, dimensions of the construct are unclear, and measurement problems continue to exist. Calling into question the use of hardiness as an independent variable the author noted:

> When hardiness is placed as the independent variable, however, what is it causing? Is hardiness a mitigator of stress, does it prevent or predict burnout, does it encourage people to engage in health-seeking behavior…? Regardless of what hardiness is said to be buffering, causing, or predicting, when hardiness is designated the independent variable it consistently accounts for a small amount of variance in regression and factor analysis (Low, pp. 22).

In the end, hardiness continues to be an accepted focus of research despite these critical assessments. Seeking to explain this persistent appeal, factors include the desire of researchers to help people by understanding the "stress – illness riddle" (Low, pp. 23) and the tendency to focus on individually based problems and solutions.

As noted earlier, efforts were made to respond to measurement criticisms with more refined hardiness instruments. Later measures were considered to have corrected the lack of sufficient correlation between the commitment, control, and challenge dimensions while also attempting to measure the presence of hardiness through positively worded indicators (Maddi, 2002). Measures of hardiness are "negatively related to self-reported anxiety, depression, somatization, interpersonal sensitivity" (pp. 74), total scores on symptom checklists and depression inventories, and clinical scales on the Minnesota Multiphasic Personality Inventory 2 (MMPI2) (Maddi et al., 2002). Revisiting the 30-item Dispositional Resilience Scale (DRS) discussed earlier, internal consistence alpha's have been adequate to good ranging from .70 to

.85 (Bartone, 1991). Using a more recent 15-item version of the DRS indicates that refinement continues with alpha coefficients of .83 for the total scale and .77 for the commitment, .71 for control, and .70 for challenge dimensions (Bartone, 1995). Validity issues also seem to have improved as scores on the DRS-15 are “predictive of illness/symptom indicators and health behaviors in a large group of men and women reservists mobilized for the gulf war.” (Bartone, 1995, pp. 3). Additionally, DRS-15 scores have been predictive of success in Army Special Forces selection course and depression and symptom reports among Army medical workers deployed in Croatia (Bartone, 1995).

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Theoretical Model of Service Utilization

3.1.1 Behavioral Model of Health Services Use

Discussed in Chapter 2, the Behavioral Model of Health Service Utilization has been used to evaluate service utilization by people who are homeless (Padgett, Steuening, and Andrews, 1990; Calsyn and Roades, 1993; Pollio et al., 2003; Wenzel et al., 2001; Lemming and Calsyn, 2004; Lemming and Calsyn, 2006; Stein, Anderson, and Gelberg, 2007; Wong, 1999; Gelber, Anderson, and Leake, 2000). Several of these studies applied this model specifically to samples of veterans who were homeless. Considering this model has been used in research with this vulnerable population and acknowledges the influence of macro, mezzo, and micro level factors, the Behavioral Model was considered appropriate for use in this study.

In practice, the Behavioral Model informed the selection of the study setting, and the specification of the study population. Acknowledging the influence of geographic accessibility on the use of services (Gamache, Rosenheck, and Tessler, 2000; McCarthy et al., 2007), a study setting was selected which offered an array of services in a small geographic area. It was hoped this strategy would minimize barriers of time and space which must be negotiated as homeless veterans seek to utilize services (McCarthy et al.). By specifying that veteran study participants must have received an *other than dishonorable* discharge, key organizational barriers to accessing VA services were also accounted for. In the end, these considerations helped ensure that enabling factors theoretically linked with the use of assistance services are included in the study.

The Behavioral Model also informed variables measured during the study and the analysis of the results. By specifying variables previously linked to the use of services, this study then focused on hardiness as a predictor of service utilization. Using the behavioral model in this study was also advantageous because by identifying variables as predisposing, enabling, or need-based factors, it was possible to evaluate if service access could be considered equitable.

3.1.2 Hardiness and Service Utilization

Considering the literature review and theoretical framework presented earlier, several hypotheses were developed to investigate the influence of hardiness on the use of 5 distinct types of assistance services by veterans who are homeless. Using a typology developed by Pollio et al. (2003), services offered in the study setting were classified as *medical*, *psychiatric*, *substance abuse*, *homelessness maintenance*, or *homelessness amelioration* related. Each sector was then evaluated separately through the use of a specific hypotheses:

- Hardiness will predict the use of medical sector services by veterans who are homeless.
- Hardiness will predict the use of psychiatric sector services by veterans who are homeless.
- Hardiness will predict the use of substance abuse sector services by veterans who are homeless.
- Hardiness will predict the use of homelessness maintenance sector services by veterans who are homeless.
- Hardiness will predict the use of homelessness amelioration sector services by veterans who are homeless.

3.2 Military Service and Hardiness

An additional hypothesis proposed veteran status predicted higher levels of hardiness among men who were currently homeless. A sub-hypothesis for this study, it was informed by aspects of the literature review identifying military training and culture as a unique and complex experience (Soeters, Poponete, and Page, 2006; Ricks, 1997; Burke, 2004; Higate, 2000a and

2000b; Holsti, 1998) seeking to develop and support servicemen able to tolerate the isolation, ambiguity, danger, powerlessness, boredom, and intense workload present in military operations (Bartone, 2006; Burke; Higate, 2000a).

While no published research had demonstrated a causal link between military service and hardiness, it appeared plausible veterans possessed higher levels of hardiness. Noted by Bartone (1999): “hardy persons have a high sense of life and work commitment, a greater feeling of control, and are more open to change and challenges in life”, qualities which appear to be embraced by the military and identified as preferred outcomes of its training. Initial support for this orientation was previously identified in table 2.2 below:

Table 2.2 Core Organizational Values

Branch	Core Values
Army	Loyalty, Duty, Respect, Selfless Service, Honor, Integrity, Personal Courage (United States Army - Values, n.d.)
Navy	Honor, Courage, Commitment (Department of the Navy - Values, n.d.)
Air Force	Integrity First, Service Before Self, Excellence in All We Do (United States Air Force - Values, n.d.)
Marine Corps	Honor, Courage, Commitment (United States Marine Corps - Values, n.d.)
Coast Guard	Honor, Respect, Devotion to Duty (United States Coast Guard - Values, n.d.)

Evaluating these stated values, it appeared the military valued the commitment, control, and challenge dimensions of hardiness as they encourage servicemen to be courageous (United states Army - Values, n.d.; Department of the Navy - Values, n.d.; United States Marine Corps - Values, n.d.), committed (Department of Navy - Values; United States Marine Corps; United States Coast Guard - Values, n.d.), and honorable (United States Army – Values; Department of the Navy – Values; United States Marine Corps - Values; United States Air Force - Values, n.d.; United States Coast Guard - Values). In training, dimensions of hardiness seemed to be emphasized through the development of task mastery (Grogean and Thomas, 2006), endurance (Higate, 2000b), and investment in the military identity (Burke, 2004; Ricks, 1997). In essence,

the stressors of isolation, ambiguity, powerlessness, boredom, danger, and the intense workload present during military service (Bartone) require servicemen be committed to their role in the military and willingly face challenges which are rigorous and taxing. Additionally, the very real possibility that the service in the military may ask the serviceman risk their life or possibly take the life of another person also seemed to indicate the military would value servicemen who are hardy.

3.2.1 Social Identity Theory and the Military Role-Identity

A fundamental proposition of this sub-hypothesis is that veteran status provides a legitimate criterion by which to differentiate men who are homeless. Ultimately, it is based on the assumption military experiences continue to influence a veteran after discharge from the armed forces and while homeless, an assertion supported by social identity theory (Tafjel, 1981) and identity theory (Grogean and Thomas, 2006). Social identity theory states an individual's self-definition is based on their membership in "numerous social groups and that this membership contributes, positively or negatively, to the image that he has of himself" (Tajfel, 1981, pp. 254). *Social identity* is therefore understood as the aspect of an individual's self-concept derived from "his knowledge of membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1981, pp. 255).

For identity theory, Grogean and Thomas (2006) proposed a model linking military organizational values to behavioral performance indicators. Essentially, it was proposed that when recruits entered the military they incorporate military organizational values with their preexisting values. This resulted in the development of a military role identity (Grogean and Thomas). Outcomes included the mastery of tasks specific to the military, the development of collective efficacy, increased cohesion among military members, and commitment to their position in the armed forces and contributed to the recruit's measurable task performance, engagement and dedication, interpersonal facilitation, citizenship in the military organization and discipline (Grogean and Thomas). This model is graphically presented below in figure 1 (Grogean and Thomas, 2006):

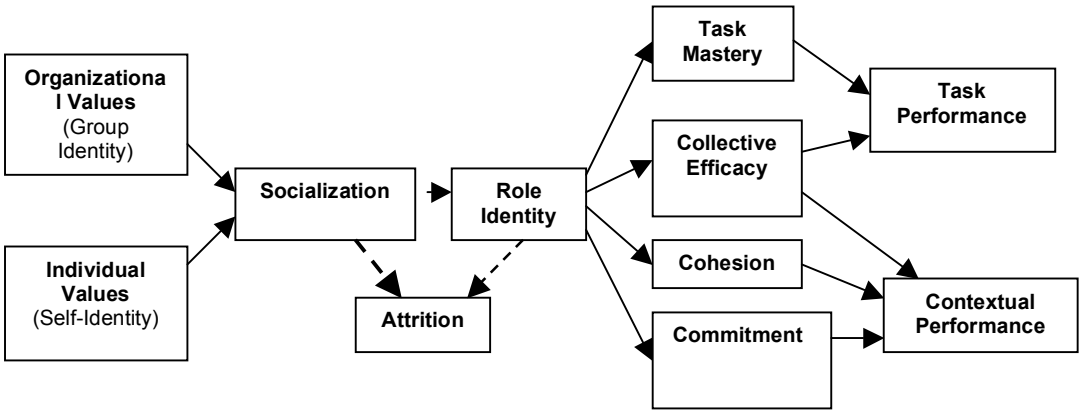

Figure 3.1 This figure illustrates the theoretical development of a military role identity.

It is important to note that social identity theory (Tajfel, 1981) and identity theory (Grogean and Thomas, 2006) have been previously discussed as incompatible. Identity theory seeks to describe an individuals role-related behaviors while social identity theory is more oriented towards social "norms, stereotypes, and prototypes" (Hogg, Terry, and White, 1995 pp. 262). Essentially, identity theory is considered as a micro-sociological theory while social identity theory is considered a social psychology theory, perspectives that occupy "parallel but separate universes" (Hogg et al., 1995, pp. 255 – 269).

Stets and Burke (2000) made a different case for the integration of groups-based social identity theory and role-based identity theory. Social identity theory and identity theory can respectively be discussed as theories of *being* and *doing* and that "a more complete theory of the self considers both the role and the group bases of identities as well as identities based in the person that provide stability across groups, roles, and situations" (Stets and Burke, 2000, pp. 234). The sources of identity provided by groups, roles, and people, are proposed to overlap each other, reinforce who an individual is, and also may constrain the individual (Stets and Burke). Combining these perspectives would produce a theory attentive to micro, mezzo, and macro levels of process and would address "agency and reflection, doing and being, behaviors and perceptions as central aspects of the self" (Stets and Burke, pp. 234).

3.2.2 Lazarus' Model of Stress and Coping

The theory of stress appraisal and coping proposed by Lazarus (1999) provided additional theoretical support for the hypothesis predicting veterans were hardier than non-veterans. Initially, social identity theory and identity theory proposed military culture and training could influence an individual's identity. This final aspect of the larger theoretical model illustrated the mechanism whereby homeless veterans may utilize military-based identities to navigate the stress of homelessness.

One of the primary strengths of Lazarus' (1999) appraisal theory was its person-in-environment orientation. Unlike earlier theories of stress and coping, Lazarus (1999) determined "psychological stress is neither solely in the environment itself or just the result of personality characteristics, but depends on a particular kind of person-environment relationship" (pp. 29). Calling this a relational approach to understanding stress, emotion, and coping, Lazarus (1999) discussed that psychological stress is present when important personal goal commitments, situational intentions, or high-valued expectations are threatened by environmental variables.

Personal variables are an essential aspect of this view of stress, emotion, and coping (Lazarus, 1999). As an individual appraises a given situation, a primary consideration is the relevance of what is happening to an individual's goals and goal hierarchies, beliefs about self and the world, and personal resources. The appraisal process consists of two interdependent parts including primary and secondary appraisal (Lazarus). Primary appraisal is an assessment of the relevance of a situation to "one's values, goal commitments, beliefs about self and the world, and situational intentions" (Lazarus, 1999, pp. 76). If the individual determines an encounter to be irrelevant or benign-positive there will no stress (Lazarus and Folkman, 1984). However, if the primary appraisal process determines something is at stake or being threatened, the individual determines whether the condition includes harm/loss – damage already done, threat – the possibility of future damage, or challenge – an obstacle to be overcome (Lazarus).

The second part of the appraisal process is where the individual decides how to react, especially if the primary appraisal indicates harm/loss, threat, or challenge (Lazarus, 1999).

Lazarus (1999) stated that secondary appraisal is an evaluation of coping options, “an active search for information and meaning on which to predicate action” (pp. 76). Individuals will make determinations based on questions including: “Do I need to act? When should I act? What can be done? Is it feasible? Which option is best? Am I capable of doing it? What are the costs and benefits?” (Lazarus, pp. 78). The answers to these questions, framed within the personal variables of goals and goal hierarchies, beliefs about self and the world, and personal resources determine the action an individual will take.

3.2.3 Synthesis of Theoretical Framework

Ultimately, the theoretical foundation used for this sub-hypothesis was based on the assumption that outcomes of military training methods and aspects of military culture are consistent with the concept of hardiness. Social identity theory and identity theory then supported the idea these experiences influenced the identity of those serving in the military. Using Lazarus’ theory of stress and coping, hardy attitudes consistent with military service were theorized to inform how the veteran viewed himself and the world. Given the military’s emphasis on task accomplishment, veterans may have been conditioned by their military training and exposure to military culture to confront challenging situations encountered while homeless versus avoiding them. Because military training is designed to increase an individual’s sense of confidence and self-efficacy, it was plausible that they will also feel a sense of control over their environment, even in the midst of homelessness. Finally, the military’s emphasis on service and sacrifice, and the linking of these to larger values of honor and integrity, support the idea that veterans are more apt to view challenges encountered while homelessness as opportunities.

3.2.4 Research Sub-Hypothesis

Considering the literature review and theoretical framework presented earlier, the following sub-hypothesis is presented:

- Veteran status will predict higher levels of hardiness among men who are homeless.

This sub-hypothesis was tested by recruiting a sample of non-veteran men who are homeless and collecting data regarding levels of hardiness. Because this hypothesis was secondary to the service utilization hypotheses discussed previously, predictor variables were selected from data primarily used to test service utilization hypotheses. While this approach likely neglected to include variables relevant to this hypothesis, the limited resources of the study precluded a more comprehensive assessment.

CHAPTER 4

METHODS

4.1 Setting

This study evaluated if the personality trait of hardiness was associated with the use of assistance services by veteran males who are homeless. It also evaluated if levels of hardiness differed between veteran and non-veteran men who are homeless. Because this study utilized primary data, an initial concern was to identify a study setting satisfying the specific aims of the research. Initial considerations included ensuring adequate numbers of veteran and non-veteran respondents were available and all relevant service sectors were located in the immediate geographic area. An additional consideration was to recruit respondents considered less likely to be engaged in a variety of homelessness assistance services. Using these criteria, an area located in a large urban center in north Texas, known as the Community of Hope was selected as the study setting.

The Community of Hope is located in a largely industrial area of Fort Worth. It is contained within a small geographic area of less than one-quarter square mile and hosts approximately 1200 people who are homeless per night (L.A. Embry, Personal Communication, July 16, 2006). It is also the physical location for a number of assistance agencies providing services accessible to veterans who are homeless including transitional and supportive housing, emergency shelter, food, emergency shelter, mental health care, substance abuse treatment, case management, outreach, legal aid, and free clothing. A daytime drop-in center is also located in the Community of Hope providing respite shelter, access to showers, bathrooms, computers, and a phone as well as laundry services, educational classes, and vocational training.

In terms of VA services for veteran who are homeless, the Community of Hope hosts a Grant and Per Diem transitional housing program and a Compensated Work Therapy program

(CWT). Additionally, VA outreach and medical services are offered at the CWT program location or a nearby VA Outpatient Clinic. A final advantage to this study location included the ability of homeless veterans to access the VA Medical Center (DVAMC) located in Dallas, Texas. While the DVAMC is located approximately 35 miles away, daily transportation is offered to the DVAMC from the CWT program office via official vehicle or through transportation vouchers. Given this comprehensive array of localized services and ready access to nearby resources, the Community of Hope represented an ideal setting for this study.

In consideration of the third criteria mentioned previously, the Community of Hope was selected as the study setting because it afforded access to respondents considered less likely to be intensely engaged in services. This access was afforded through the large emergency shelter located in the area which did not charge a fee, placed no limitations on the length of stay, and the program's rules and regulations were minimal compared to high-demand shelters located in the area. An additional favorable characteristic of this facility was that no picture ID was required to enter the facility at the initiation of the study.

In the midst of these characteristics, shelter residents were also considered less likely to be engaged in services because they were not residing in transitional or supportive housing at the time of the interview. Given that these housing programs explicitly link supportive services directly with housing, it appeared plausible that individuals living in an emergency shelter could be considered less engaged in services because they were not a condition of receiving shelter and not as readily available. Additionally, while case management was offered at the shelter, it appeared inconsistent and focused on basic needs unlike transitional or supportive housing providers which may encourage – or even require – the use of medical, psychiatric, or substance abuse services.

4.2 Participants

The participants in this research included two groups of homeless adult males residing in the low-demand emergency shelter located in the Community of Hope. The first group included veterans who received a *other than dishonorable* discharge from the United States armed forces

while the second group included homeless adult males with no history of prior military service. For all participants, inclusion criteria included that they be over the age of 18, conversationally fluent in English, and able to give informed consent prior to participating in the study.

4.3 Sampling and Sample Size

A probability sampling approach was used to bolster the rigor of this research and allow findings to be generalized to the larger study population, To develop a reliable strategy, the investigator observed the location where recruitment was to occur in order to determine the optimal time of day and location to recruit participants. During this observation, it was noted while the emergency shelter did not admit adult males until 5:00 pm; individuals began lining up at approximately 2pm. For the most part, it was also noted they consistently gathered along the eastern side of the fence surrounding the shelter building. Determining other opportunities to utilize a systematic sampling strategy were limited, it was decided individuals would be recruited as they waited in line to enter the facility.

Cohen's (1992) discussion of statistical power analysis was used to determine the sample size required for this study. Understanding sample size is a function of the significance criterion, the anticipated effect size, and the statistical power of the significance tests (Cohen), the following statistical parameters were identified to assist in determining the sample size:

- When appropriate, significance criterion of .05 will be used for all statistical tests.
- Statistical power of the significance tests is specified at .80 as suggested by Cohen (1992) and Rosenthal (2001).
- Effect size is considered to be moderate which equates to a value of .30 (Cohen)

Considering this study had the potential to use up to 6 predictor variables for multiple regression analyses, calculations indicated that a sample size of 214 including 107 veterans and 107 non-veterans was necessary to obtain moderate statistical power. For this research, it was determined the study sample would include 220 randomly selected participants including 110 veterans and 110 non-veterans. A more detailed discussion of the sampling strategy will be provided in section 6.4.

4.4 Instrumentation

4.4.1 Demographic Characteristics / History of Military Service

A variety of instruments were used to collect the data required for the study hypothesis. Basic demographic characteristics, education, criminal history, and income and employment data were obtained using items from the HUD/HHS/VA Collaborative Initiative to Help End Chronic Homelessness (CICH) National Outcomes Performance Assessment obtained from Dr. Robert Rosenheck of the VA Northeast Program Evaluation Center (see Appendix A). This instrument also gathered data on the participant's experience of homelessness as respondents identified the amount of time they had been homeless in their lifetime, the number of times they had been homeless in the last three years, the last date they slept continuously in one place for thirty days or more, and the age they first became homeless. More specific data regarding their sleeping arrangements in the last 90 days were also gathered. Participants identified whether they had slept in shelters, outdoors, in motels, halfway houses, and more. They then estimated the number of nights they had slept in these locations in the last 90 days.

For participants who served in the armed forces, military service was assessed using this instrument. Respondents identified branch(s) of service, length of time in the military, era of service, discharge type, rank at discharge, whether they possessed a service connected disability and the current disability rating. Additional information included whether the respondent served in a war zone and if yes, the name of the war zone, whether they had been involved in combat, and if they had been wounded. Finally, veteran participants also identified the amount of time in the last 12 months they were eligible to receive VA services.

4.4.2 Service Utilization

In order to evaluate respondent's use of homeless assistance services, a hybrid of the CICH assessment discussed previously and the SUNCODA service utilization questionnaire provided by Dr. Carol North of the Dallas VA Medical Center was used (see Appendix A). Respondents discussed their use of the 5 assistance service sectors previously conceptualized by Pollio et al. (2003) as medical, mental health, substance abuse, homelessness amelioration,

and homelessness maintenance. Initially, respondents discussed whether they used a specific sector service or not. The use of emergency room services, inpatient hospital admissions, and use of outpatient services were assessed but differentiated by whether the nature of the problem motivating service use was medical, psychiatric, or substance abuse-related. Other services were sector-specific including use of housing case management services in the homelessness amelioration sector or the use of emergency shelter services in the homelessness maintenance sector. In addition to assessing whether a respondent had used a specific service, this instrument also assessed the frequency of service use within a defined measurement interval. For the medical, mental health, and substance abuse sectors, the measurement interval used was the previous 12 months. For the homelessness maintenance and homelessness amelioration sectors, the interval was 12 weeks.

4.4.3 Hardiness

The personality trait of hardiness was evaluated using the Dispositional Resilience Scale (DRS15-R). As noted by its author, the history of this scale can be traced back to the original 53-item instrument used by Maddi and Kobasa in the early 1980's and embodied the latest psychometric refinements in measuring this construct (Bartone, 1995). The DRS15-R is a 15 item instrument and included positively and negatively keyed items measuring the three dimensions of commitment, control, and challenge (Bartone). Respondents responded to statements using a four-point response scale of *not at all true*, *a little true*, *quite true*, and *completely true*. A total hardiness score was obtained by reverse scoring 5 negatively keyed items and summing the responses for all 15 items. Used extensively with military and non-military samples (Bartone, Roland, Picano, and Williams, 2008), the DRS15-R has demonstrated good internal consistency ($\alpha = .82$) and test-retest reliability ($\alpha = .78$) (Bartone, 2007). However, because no other study could be located using the DRS15-R with a sample of people who are homeless, these reliability measures were considered tentative. During the course of this study, reliability of the DRS15-R was assessed with results indicating good internal consistency for the total sample ($\alpha = .73$) and the veteran ($\alpha = .77$) and non-veteran subgroups ($\alpha = .68$).

4.4.4 Physical and Mental Health Functioning

Additional variables of interest to this study included the mental and physical health functioning levels of the study respondents. Within the Behavioral Model of Health Care Utilization, these variables were conceptualized as need-based factors (Pollio et al., 2003). For this study, the Veterans Rand 12 (VR-12) provided a measurement of respondents mental and physical functioning (see Appendix C). The VR-12 is a brief health survey used to measure health related quality of life, estimate disease burden, and evaluate disease specific bench marks with other populations (Iqbal et al., n.d.). It was developed from the Veterans VR-36 which is considered to be an improved version of the Medical Outcomes Study SF-36 (Kazis et al., n.d.). The key difference between these scales is the use of a 5-point response scale for 7 items on the VR-36 versus *yes/no* choices on the SF-36. These changes are purported to have improved the distributional properties of the instrument and increased the overall reliability (Jones et al., 2001).The VR-12 measured eight concepts of health including physical functioning and provides summary measures of physical health functioning (PCS) and mental health functioning (MCS) (Kazis).

Specific data regarding the internal consistency of the VR-12 were not available but its parent instrument, the VR-36 yields alpha scores of .94 for physical functioning and .89 for mental health functioning (Kazis et al., n.d.). Because the VR-12 provides 90.0% of the reliable variance in PCS and MCS scores provided by the VR-36 and the results between the two correspond very closely (Jones et al., 2001), the VR-12 was considered psychometrically reliable. An additional strength of this instrument is that the reliability and the validity of SF-36 and its brief version, the SF-12, have been established with people who are homeless (Larson, 2002; Riley et al., 2003). Given that the VR-36 is said to be a psychometrically improved and more accurate version of the SF-36 (Kazis) and the VR-12 is a valid and reliable brief version of this scale, the use of the VR-12 with this population appeared appropriate.

4.4.5 History of Substance Abuse

Three separate measures assessed the incidence of drug and alcohol-related problems. The shortened version of the Michigan Alcoholism Screening Test (MAST) detected problematic behaviors considered to indicate alcoholism (Corcoran and Fisher, 2006) (see Appendix D), consisted of 13 items, and possessed very good internal consistency (α = .93) (Corcoran and Fisher). Known groups validity was considered very good with the MAST correctly differentiating between alcoholic and non-alcoholic individuals even when they were instructed to lie about their drinking problems (Corcoran and Fisher).

In order to measure problems with drug use, the Drug Abuse Screening Test-10 (DAST-10) was used during this study (see Appendix E). Containing 10 items, the DAST is considered to related to the MAST and yields a quantification of problems associated with drug use (Corcoran and Fisher, 2006). The reliability of the DAST appeared very good with published alpha scores of .86 and .94 (Yudko, Lozhina, and Fouts, 2006). Discriminant validity has been established with the DAST differentiating those with alcohol related problems from those with drug related problems. Concurrent validity was established during the development of the instrument with the DAST being significantly correlated with all psychopathology items on the Basic Personality Inventory (Corcoran and Fisher).

4.4.6 Current Alcohol or Drug Use

The final method of evaluating the alcohol and drug – related behaviors were used to capture data regarding drug or alcohol consumption in the last 30 days (see Appendix F). These items complemented the DAST and the MAST as while these instruments screened for a history of substance abuse problems, these items measured active use. Developed by the Substance Abuse and Mental Health Services Administration (SAMHSA), participants were asked to identify if they used a substance and provide their best estimation as to the frequency of use in the last thirty days. However, the original measurement scale of the items used for collecting this information was altered. Previously, respondents were asked to select one of six responses ranging from *zero days in the last thirty* to *all thirty days*. For this study, respondents were asked

to estimate the actual number of days they used alcohol or another substance. This modification utilized a higher level of measurement considered more desirable for statistical analyses.

Given the number of instruments used during this study and the variety of information gathered, Table 4.1 below provides an overview of each instrument, its relevance to the study, level of measurement, and its function in the analysis model.

Table 4.1 Instruments

Measure	Relevance to Study	Level of Measurement	Purpose in Analysis
Demographic Data / Veterans Supplement (Appendix 2)	Gathers basic demographic information. For Veterans, this survey also captures data regarding military service.	Nominal and Interval/Ratio	Assess total sample and study subgroups. To be used as in hypothesis testing.
Hardiness Scale (Appendix 3)	Measure the concept of hardiness in both the veteran and non-veteran groups.	Ordinal (item scores will be aggregated and used as interval level data)	Criterion variable in evaluating if veteran status predicts hardiness. To serve as an predictor variable assessing the influence of hardiness on service utilization.
Service Utilization Questionnaire (Appendix 4)	Capture the number of times members of veteran and non-veteran group used specific services in the last 12 months.	Ratio	Serve as the dependent variable in the analysis of the influence of hardiness on service utilization.
VR – 36 Health Survey (Appdix 5)	Assess the physical health functioning and mental health functioning of the members of the veteran and non-veteran groups.	Ordinal (item scores will be aggregated and used as interval level data)	Control variables in the analysis of veteran status on hardiness and the influence of hardiness on service utilization.
Michigan Alcohol Screening Test (MAST) (Appendix 6)	To detect problematic alcohol use by members of both groups.	Ordinal (item scores will be aggregated and used as interval level data)	Control variables in the analysis of veteran status on hardiness and the influence of hardiness on service utilization.
Drug Abuse Screening Test (DAST) (Appendix 7)	To measure drug use and abuse by members of both groups.	Ordinal (item scores will be aggregated and used as interval level data)	Control variables in the analysis of veteran status on hardiness and the influence of hardiness on service utilization.
Alcohol / Drug Consumption Indicators (Appendix 8)	To measure the frequency and amounts of consumption of drugs and alcohol by member of both groups in the last thirty days.	Interval	Control variables in the analysis of veteran status on hardiness and the influence of hardiness on service utilization.

4.5 Procedures

The procedure for sampling and recruiting respondents initiated with the investigator initially selecting a random number from a container. This number identified the position in line of the person initially approached to participate in the study. The number also indicated the position

of each subsequent person to be recruited. Because females were present in the line, the investigator excluded individuals who appeared female and moved to the next identified individual. If an individual appeared male, the recruiting process initiated with the researcher identifying himself, his institutional affiliation, and providing a general discussion of the purpose of the study. During this conversation, the investigator then assessed other exclusion criteria including a dishonorable discharge from the United States military, being under the age of 18 years, the ability to communicate conversationally in English, and appearing capable of providing informed consent. If the individual met inclusion criteria and was willing to participate, the investigator informed him where interviews were being conducted and gave him an appointment time. Interviews were not completed while individuals waited in line due to a lack of privacy and to allow the respondent to be admitted to the facility, secure a place to sleep, and eat his evening meal.

Meeting with potential respondents, subsequent procedures included completing the informed consent process required for human subject's research. Prior to initiating the interview, potential respondents were provided with a written copy of the informed consent document (ICD) and asked to read the form (see Appendix G). When the respondent indicated he understood the document, the investigator summarized key information and asked if he understood the purpose of the study and his rights as a research participant. If he agreed, the respondent was asked to complete the informed consent document and was provided with the study incentive.

During the interview, the principal investigator administered all measures to ensure items were properly completed and minimize missing data. The order of instruments was as follows:

1. Demographic / military history
2. Service utilization items
3. VR-12 Health Assessment Questionnaire
4. Michigan Alcohol Screening Test (MAST)
5. Drug Abuse Screening Test
6. Alcohol and drug consumption items

7. Dispositional Resilience Scale (DRS15-R)

4.6 Data Analysis Strategy

All data analyses were conducted using the Statistical Package for the Social Sciences (SPSS) Versions 15.0 and 16.0. Descriptive statistics were generated for the total sample as well as veteran and non-veteran subgroups. Indicators of service utilization, standardized scales, and substance abuse consumption items were processed in a similar manner as well. To evaluate a basic assumption of many statistical tests, histograms and Q – Q plots were generated to assess if study variables were normally distributed. Further analysis then selectively utilized parametric and non-parametric statistical tests to compare whether veteran and non-veteran subgroups differed on select study variables. As noted previously, all significance tests utilized an alpha significance criterion less than .050 ($p < .05$). Finally, comparisons were made for DRS15-R and the VR-12 mental health and physical health functioning subscale scores obtained during this study using normed population means.

The next phase of the data analysis model included the development of service sector summary variables. Key sector services were identified and aggregated to provide an overall assessment of sector utilization. As with other data collected during the study, descriptive and inferential statistics were used to assess veteran and non-veteran utilization characteristics and make comparisons between subgroups. Subsequent analyses then utilized parametric Pearson's Product Moment Correlation (Pearson's *r*) and non-parametric Spearman's Rank Correlation Coefficient (Spearman's rho) to identify variables statistically correlated with the sector summary variables. These results of these tests were used in selecting the predictor variables used during hypothesis testing.

The final phase of data analyses tested the hypotheses presented earlier including five service utilization hypotheses and one sub-hypothesis evaluating whether veterans and non-veteran subgroups differed on hardiness. For the five service utilization hypotheses, data provided only by the veteran subgroup were used. For the sub-hypothesis, data from both the veteran and non-veteran groups were used. To test all hypotheses, multiple regression was used.

For the five service utilization hypotheses, the analysis strategy evaluated whether hardiness predicted service use by the veteran subgroup *above and beyond other variables included in the model*. As noted earlier, criterion variables in service utilization regression models included summary variables for the medical, psychiatric, substance abuse, homelessness maintenance, and homelessness amelioration sectors informed by Pollio et al. (2003). Predictor variables included factors previously identified in the literature as predicting service use and/or those identified as statistically correlated and conceptually linked with the criterion variables. The hypothesis stating veteran status predicted higher levels of hardiness included DRS15-R hardiness scales score as the criterion variable while predictor variables included the dichotomous veteran status (yes/no) variable and other variables statistically correlated and conceptually linked to hardiness.

Prior to testing the study hypotheses, statistical assumptions of multiple linear regression were evaluated including the absence of statistical outliers, absence of multicollinearity, normality, linearity, and homoscedasticity of residuals (Tabachnick and Fidell, 2001). Consistent with Meyers et al. (2006), Tabachnick and Fidell (2001), and Rowe (N. Rowe, Personal Communication, October, 17, 2008) these assumptions were assessed using residual scatter plots, collinearity diagnostics and studentized residuals obtained through a preliminary analysis of each regression model. Examining the scatter plots, “rectangularity within the residuals” (Meyers, Gamst, and Guarino, 2006, pp. 202) was considered to indicate a normal distribution of residuals and lack of outliers. The absence of a curved or funnel-shaped residual output demonstrated assumptions of linearity and homoscedasticity were respectively met. In addition to the use of scatter plots, outliers were also evaluated using studentized residuals while the assumption of no multicollinearity was assessed using collinearity diagnostics. Cases with a studentized residual greater than 2.00 were considered outliers while tolerance statistics below .40 and variance inflation factor (VIF) scores greater than 10 indicated the presence of multicollinearity (Meyers et al., 2006; Rowe). A detailed discussion of any assumption violations and remedies taken are detailed for each study hypothesis in Chapter 4.

CHAPTER 5

FINDINGS

5.1 Introduction to Findings

Data collected from homeless veteran males were used to evaluate whether hardiness predicted the use of five assistance service sectors. Data collected from veteran and non-veteran homeless males were used to evaluate whether veteran status predicted higher levels of hardiness. The Statistical Package for Social Sciences (SPSS) Versions 15.0 and 16.0 were used for all statistical analyses (SPSS, 2007). This section will present an overview of descriptive statistical findings including:

1. Demographic characteristics
2. History of homelessness
3. Criminal history
4. Income and employment
5. History of military service
6. Standardized scales used in the research
7. Alcohol and drug consumption
8. Service utilization indicators

For each section, descriptive findings were presented for the total study sample and the veteran and non-veteran study subgroups. These included frequency distributions, mean scores, and standard deviations. Additional findings included inferential parametric and non-parametric statistical tests comparing veteran and non-veteran subgroups and the results of the regression models used to test study hypotheses. For all inferential statistical tests, pertinent assumptions were evaluated. For all significance tests, alpha was established at $p < .05$. Because this study

collected a considerable amount of data, a summary of relevant statistical findings for all sections was presented at the conclusion of the chapter.

5.2 Demographic Characteristics

A total of 220 currently homeless males agreed to participate in the study. Sample subgroups included 110 males with a history of service in the United States armed forces and 110 males with no history of military service. Age and race / ethnicity demographic characteristics for the total sample and the veteran and non-veteran subgroups are depicted in Table 5.1. For the total sample, the average respondent was 45.69 *(sd* = 11.01) years old. The average veteran *(M* = 49.25*, sd* = 9.22) was significantly older ($t(218) = 5.05$, $p = .000$) than the average non-veteran *(M* = 42.14*, sd* = 11.53). African-Americans represented the largest racial minority group in the total sample (50.5%) and the veteran subgroup (55.5%) while Caucasians were the most represented racial group (52.7%) among the non-veteran subgroup. One (.5%) individual in the total sample - a member of the veteran subgroup - indicated he belonged to the Native Hawaiian / Pacific Islander racial group while 5 (2.3%) members of the total sample reported being of Native American / Alaska Native descent. Of these 5 individuals, 3 were members of the veteran subgroup and 2 belonged to the non-veteran subgroup. No study participants identified themselves as Asian. After recoding the initial race variable into a dichotomous (Caucasian / Non-Caucasian) variable, the results of a chi-square test indicated that a marginally statistically significant association ($\chi^2(1) = 3.09$, $p = .052$) existed between veteran status and race.

When respondents were asked if they were of Hispanic or Latino ethnicity, 19 (8.7%) individuals in the total sample reported they were Hispanic or Latino. Sixteen (84.2%) of these 19 individuals reported being Mexican-American including 6 (38.0%) veterans and 10 (62.0%) non-veterans. Of the 110 non-veterans, 2 (1.8%) identified themselves as Puerto Rican and 1 (.9%) individual of the 110 veterans identified themselves as belonging to *other Hispanic / Latino*. As with race, a chi-square test of independence was used to determine if a statistically significant relationship existed between the Hispanic or Latino ethnicity and veteran status. No statistically significant association ($\chi^2(1) = 1.440$, $p = .230$) was found.

Table 5.1 Age, Race, and Ethnicity

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Age	M = 45.69 (sd = 11.01)	M = 49.25 (sd = 9.22)	M = 42.14* (sd = 11.53)
Age Distribution			
18 – 25	13 (5.9%)	1 (.9%)	12 (10.9%)
26 – 35	26 (11.8%)	7 (6.4%)	19 (17.3%)
36 – 45	53 (24.1%)	20 (18.2%)	33 (30.0%)
46 – 55	90 (40.9%)	58 (52.7%)	32 (29.1%)
56 – 65	34 (15.5%)	21 (19.1%)	13 (11.8%)
66 - 75	4 (1.8%)	3 (2.7%)	1 (.9%)
Race			
African American	111 (50.5%)	61 (55.5%)	50 (45.5%)
Caucasian	103 (46.8%)	45 (40.9%)	58 (52.7%)
American Indian / Alaska Native	5 (2.3%)	3 (2.7%)	2 (1.8%)
Native Hawaiian / Pacific Islander	1 (.5%)	1 (.9%)	0
Hispanic or Latino Ethnicity			
Mexican American	16 (7.3%)	6 (5.5%)	10 (9.1%)
Puerto Rican	2 (.9%)	0	2 (1.8%)
Other	1 (.5%)	1 (.9%)	0

*$p < .05$

Additional demographic characteristics were marital status, educational history, parental status, non-VA medical insurance status, and whether respondents possessed a valid government photo identification (see Table 5.2). For the total sample, 90 (40.9%) respondents reported they were divorced and 86 (39.1%) identified themselves as *single / never married*. The remaining 44 respondents reported being *separated* (n = 20; 9.1%), *married* (n = 15; 6.8%), or *widowed* (n = 9; 4.1%). Veterans (56.4%) were more likely to be divorced than non-veterans (25.5%) while non-veterans (52.7%) were more likely to be single / never married than veterans (25.5%). When the relationship between veteran status and marital status was evaluated, a statistically significant relationship ($\chi^2(4) = 26.176$, $p = .000$) was found. For education, the average respondent for the total sample completed 11.64 *(sd* = 2.20) years of school with the mean number of years of school completed (M = 12.34, sd = 1.95) by veterans being significantly higher ($t(218) = 4.925$, $p = .000$) than non-veterans (M = 10.95, sd = 2.23).

Over two-thirds (67.7%) of the total sample reported having children. More veterans (73.6%) reported having children than the non-veterans (61.8%) but no statistically significant relationship ($\chi^2(1) = 3.515$, $p = .061$) existed between these variables. Nearly one-third (n = 67, 30.5%) of the total sample reported children under the age of eighteen with similar percentages reported by both the veteran (49.3%) and non-veteran (50.7%) subgroups. No statistically significant relationship existed between these two variables ($\chi^2(1) = .021$, $p = .884$).

Final demographic variables include the amount of time respondents possessed medical insurance in the last year and whether they possessed a valid, government issued ID. Approximately three-quarters (n = 167, 75.9%) of all respondents reported *no health insurance in the last 12 months* and 34 (15.5%) possessed insurance *all year*. The remaining 19 (8.6%) respondents reported having health insurance for some part of the year. More veterans (82.7%) than non-veterans (69.1%) did not possess health insurance at any time in the last year while more non-veterans (20.9%) than veterans (10.0%) had health insurance for the entire year preceding the interview. A statistically significant relationship ($\chi^2(1) = 5.593$, $p = .018$) existed between veteran status and the possession of insurance in the last year (yes/ no). Asked if they possessed valid, government issued identification, 69.1% (n = 152) of the total sample reported they did not possess ID. Significantly more veterans (n = 85, 77.3%) than non-veterans (n = 67, 60.9%) had identification ($\chi^2(1) = 6.896$, $p = .009$).

Table 5.2 Marital Status, Education, Parental Status, Medical Insurance, and ID

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Marital Status			
Single / Never Married	86 (39.1%)	28 (25.5%)	58 (52.7%)*
Married	15 (6.8%)	5 (4.5%)	10 (9.1%)
Divorced	90 (40.9%)	62 (56.4%)	28 (25.5%)
Separated	20 (9.1%)	9 (8.2%)	11 (10.0%)
Widowed	9 (4.1%)	6 (5.5%)	3 (2.7%)
Years of School Completed	M = 11.64 (sd = 2.20)	M = 12.34 (sd = 1.95)	M = 10.95* (sd = 2.23)

Table 5.2 - *Continued*

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Education Level			
Less than High School	72 (32.7%)	15 (13.6%)	57 (51.8%)
High School Grad / GED	101 (45.9%)	60 (54.5%)	41 (37.3%)
Some College	35 (15.9%)	28 (25.5%)	7 (6.4%)
College Grad	10 (4.5%)	6 (5.5%)	4 (3.6%)
Some Graduate School	2 (.9%)	1 (.9%)	1 (.9%)
Has Children			
Yes	149 (67.7%)	81 (73.6%)	68 (61.8%)
No	71 (32.3%)	29 (26.4%)	42 (38.2%)
Children under 18			
Yes	67 (30.5%)	33 (30.0%)	34 (30.9%)
No	153 (69.5%)	77 (70.0%)	76 (69.1%)
Insurance in Last Year (not including access to VA)			
Not at all	167 (75.9%)	91 (82.7%)	76 (69.1%)
Less than 3 months	4 (1.8%)	2 (1.8%)	2 (1.8%)
3 to 6 months	9 (4.1%)	2 (1.8%)	7 (6.4%)
7 to 11 months	6 (2.7%)	4 (3.6%)	2 (1.8%)
All year	34 (15.5%)	11 (10.0%)	23 (20.9%)
Some insurance in last year			
No	167 (75.9%)	91 (82.7%)	76 (69.1%)*
Yes	53 (24.1%)	19 (17.3%)	34 (30.9%)
Possesses Valid Government-Issued ID			
Yes	152 (69.1%)	85 (77.3%)	67 (60.9%)*
No	68 (30.9%)	25 (22.7%)	43 (39.1%)

*$p < .05$

5.3 History of Homelessness

Data regarding history of homelessness were also collected during the interview (see Table 5.3). The average respondent had been homeless an average of 481.27 days *(sd = 699.81*) at the time of the interview. Veterans had been homeless an average of 452.68 days *(sd = 768.76*) and non-veterans 509.85 days *(sd = 625.56*). No statistically significant difference existed between these two subgroups ($t(218) = .365$, $p = .716$). For all respondents, homelessness was first experienced at an average of 38.15 *(sd = 12.19)* years of age. Non-veterans (M = 35.37, sd = 12.06) were, on average, significantly younger ($t(218) = 3.456$, $p = .001$) veterans (M = 40.92, sd = 11.73) when they first became homeless. Asked to identify the

number of distinct homelessness episodes in the last three years, the total sample mean was 1.70 *(sd = 1.20*). For this variable, no significant difference (t(218) = -.617, *p* = .538) existed between Veterans (M = 1.65, *sd = 1.*10) and non-veterans (M = 1.75, *sd = 1.29*). For all respondents, mean total time homeless was 1363.10 *(sd = 1490.20*) days. No significant difference (t(218) = .365, *p* = .716) existed between the veteran (M = 1399.82, *sd = 1568.74*) and non-veteran subgroups (M = 1326.37, *sd = 1413.54*).

Table 5.3 History of Homelessness

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Length of Current Homelessness Episode	M = 481.27 (sd = 699.81)	M = 452.68 (sd = 768.76)	M = 509.85 (sd = 625.56)
Times Homeless in Last 3 Years	M = 1.70 (sd = 1.20)	M = 1.65 (sd = 1.10)	M = 1.75 (sd = 1.29)
Age First Homeless	M = 38.15 (sd = 12.19)	M = 40.92 (sd = 11.73)	M = 35.37* (sd = 12.06)
Lifetime Homelessness	M = 1363.10 (sd = 12.19)	M = 1399.82 (sd = 1568.74)	M = 1326.37 (sd = 1413.54)

*$p < .05$

Other history of homelessness variables were the number of months since the respondent had lived in their own apartment, room, or house, specific types of sleeping arrangements in the last 90 days, and the frequency of use for each type of sleeping arrangement (see Table 5.4). For the total sample, it had been an average of 31.45 months *(sd = 41*.38) since they resided in their own apartment, room, or house for at least 30 days. Veterans averaged 29.70 months *(sd = 43.50*) and non-veterans averaged 33.20 months *(sd = 39.26*). No statistically significant difference existed between these two groups (*t*(218) = -.626, *p* = .532). The most frequently utilized sleeping arrangement identified by the total sample (M = 51.10, sd = 33.57), veteran subgroup (M = 46.83, sd = 33.13), and non-veteran subgroup (M = 55.37, sd = 33.61) members was *shelter.* No statistically significant difference (*t*(218) = -1.899, *p* = .059) existed between veterans and non-veterans in the use of this sleeping arrangement.

The next most frequently utilized sleeping arrangement cited was *sleeping outdoors.* The average number of nights for the total sample was 15.43 (*sd = 26*.07). Veterans (M = 15.71, *sd* =

26.49), and non-veterans (M = 15.15, *sd* = 25.76) were very comparable on this study variable (*t*(218) = .696, *p* = .873). Other types of sleeping arrangements were less frequently utilized but a statistically significant difference (*t*(218) = 2.645, *p* = .009) existed in the number of nights veterans (M = 3.69, sd = 14.63) and non-veterans (M = 0.00) spent in a hotel in the last 90 days. A statistically significant difference (*t*(218) = 2.017, *p* = .045) also existed between the average number of days that veterans (M = 3.85, sd = 14.73) and non-veterans (M = .77, sd = 6.177) stayed in a halfway house for the purpose of establishing sobriety. The final variable determined the number of places the respondent had slept in the last 90 days. The total sample (M = 2.63, *sd* = *2.29*), veteran subgroup (M = 2.64, *sd* = *1.92*), and non-veteran subgroup (M = 2.63, *sd* = *2.62*) were similar and no statistically significant difference existed between the two study groups (*t*(218) = .029, *p* = .977).

Table 5.4 Recent Residential History

Months Since Own Apartment, Room, or House	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Sleeping Arrangements in Last 90 Days	M = 31.45 (SD = 41.38)	M = 40.92 (SD = 43.50)	M = 33.20 (SD = 39.26)
Own Apartment, room, or House	M = 7.91 (SD = 20.18)	M = 9.21 (SD = 20.50)	M = 6.62 (SD = 19.89)
Someone else's apartment, room, or house	M = 4.92 (SD = 16.89)	M = 4.17 (SD = 14.83)	M = 5.67 (SD = 18.77)
Hotel, SRO, or Boarding House	M = 1.85 (SD = 10.50)	M = 3.69 (SD = 14.63)	0*
Halfway House	M = 2.31 (SD = 11.37)	M = 3.85 (SD = 14.73)	M = .77* (SD = 6.17)
Transitional Housing	M = .45 (SD = 14.22)	M = .91 (SD = 7.34)	0
Institution	M = 1.14 (SD = 8.06)	M = 1.78 (SD = 10.50)	M = .50 (SD = 4.38)
Jail	M = 4.12 (SD = 14.22)	M = 3.04 (SD = 12.26)	M = 5.20 (SD = 15.93)
Shelter	M = 51.10 (SD = 33.57)	M = 46.83 (SD = 33.13)	M = 55.37 (SD = 33.61)
Outdoors	M = 15.43 (SD = 26.07)	M = 15.71 (SD = 26.49)	M = 15.15 (SD = 25.76)

Table 5.4 - *Continued*

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Number of Places Lived in Last 90 Days	M = 2.63 (SD = 2.29)	M = 2.64 (SD = 1.92)	M = 2.63 (SD = 2.62)

*$p < .05$

5.4 Criminal History

Respondents provided information regarding their experiences with the criminal justice system. Variables included history of adult felony convictions, lifetime history of incarceration, whether respondents had been arrested and charged in the last 90 days, and the number of days incarcerated in the last 90 days (see Table 5.5). Just over 70.0% (n = 157, 71.4%) of all respondents had been convicted of a felony as an adult. Veterans (M = 78, 70.9%) and non-veterans (M = 79, 71.8%) reported comparable conviction rates ($\chi^2(1) = .022$, $p = .881$). A clear majority of the total sample (n = 209, 95.0%) had been incarcerated at some point in their life. The average respondent had spent 1546.50 *(sd* = 2164.92) days incarcerated in jail or prison. The number of veterans (n = 104, 94.5%) and non-veterans (n = 105, 95.0%) who spent time in jail or prison were similar and no statistically significant association existed between veteran status and having been incarcerated ($\chi^2(1) = .096$, $p = .757$). Total days of incarceration was 1438.05 *(sd* = 2133.38) for veterans and 1654.98 *(sd = 2200.38*) for non-veterans. No statistically significant difference ($t(218) = -.742$, $p = .459$) existed between these groups.

Almost one-fifth (n = 38, 17.3%) of the total sample had been arrested and charged with a crime in the last 90 days. Most were non-veterans (n = 22, 20%) but this difference was not statistically significant ($\chi^2(1) = 1.145$, $p = .285$). The mean number of days incarcerated in the last 90 was 3.97 *(sd = 12.59*) for the total sample, 2.74 *(sd = 10.72*) for veterans and 5.20 *(sd = 14.17*) for non-veterans. No statistically significant difference found between these two groups ($t(218) = -1.454$, $p = .147$)

Table 5.5 Criminal History

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Adult Felony Conviction	157 (71.4%)	78 (70.9%)	79 (71.8%)

Table 5.5 - *Continued*

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
History of Incarceration	209 (95.0%)	104 (94.5%)	105 (95.0%)
Lifetime History of Incarceration	M = 1546.50 (SD = 2164.92)	M = 1438.05 (SD = 2133.38)	M = 1654.98 (SD = 2200.38)
Arrested and Charged in Last 90 Days	38 (17.3%)	16 (14.5%)	22 (20.0%)
Days Incarcerated in the Last 90	M = 3.97 (SD = 12.59)	M = 2.74 (SD = 10.72)	M = 5.20 (SD = 14.17)

*$p < .05$

5.5 Income and Employment

Findings regarding income and work activities are presented in Table 5.6. For the total sample, mean income for the previous 30 days was 463.34 *(sd = 392.63*) dollars. Average income for veterans was 465.83 *(sd = 430.93*) dollars and 460.85 (*sd* = 352.16) dollars for non-veterans. The difference between these two means was not statistically significant ($t(218) = .094$, $p = .925$). Approximately 10.0% of the total sample (n = 24, 10.9%), veteran subgroup (n = 14, 12.7%), and non-veteran subgroup (n = 10, 9.1%) reported no income. Most total sample respondents (n = 174, 79.1%), veterans (n = 83, 75.4%), and non-veterans (n = 91, 82.8%) reported an income between 1 and 1,000 dollars. Those respondents earning 1,001 – 2,000 dollars, represented 10.0% (n = 22) of the total sample, 11.8% (n = 13) of the veteran subgroup, and 8.2% (n = 9) of the non-veteran subgroup. Using a chi-square test of independence, no significant association existed between veteran status and income ($\chi^2(2) = 1.762$, $p = .414$).

Just over 70.0% (n = 158, 71.8%) of the total sample stated they were currently *working for pay*. This included 75 (68.2%) veterans and 83 (75.5%) non-veterans. The mean number of hours of work was 17.75 *(sd = 14.92*) for the total sample, 17.01 *(sd = 15.37*) for the veteran subgroup, and 18.50 *(sd = 14.49*) for the non-veteran subgroup. No statistically significant difference was found between the study subgroups ($t(218) = -.740$, $p = .460$). The most cited category of hours worked per week included 16 – 30 hours. This included 39.1% (n = 86) of the total sample, 33.6% (n = 37) of the veteran subgroup, and 44.5% (n = 49) of the non-veteran

subgroup. Subsequent chi-square analysis did not reveal a significant association existed between this ordinal variable and veterans status ($\chi^2(4) = 4.208$, $p = .379$).

Table 5.6 Income and Employment

Variable	Total Sample (n=220)	Veteran Subgroup (n=110)	Non-Veteran Subgroup (n=110)
Dollars of Income in Last 30 Days	M = 463.34 (sd = 392.63)	M = 465.83 (sd = 430.93)	M = 460.85 (sd = 352.16)
Distribution of Income in Dollars			
No Income	24 (10.9%)	14 (12.7%)	10 (9.1%)
1 – 1000	174 (79.1%)	83 (75.4%)	91 (82.8%)
1001 – 2000	22 (10.0%)	13 (11.8%)	9 (8.2%)
Working or Not?			
Yes	158 (71.8%)	75 (68.2%)	83 (75.5%)
No	62 (28.2%)	35 (31.8%)	27 (24.5%)
Average Amount of Hours Earning Money Per Week	M = 17.75 (sd = 14.92)	M = 17.01 (sd = 15.37)	M = 18.50 (sd = 14.49)
Amount of Hours Working Per Week			
Not Working	62 (28.2%)	35 (31.8%)	27 (25.5%)
1 – 15	31 (14.1%)	18 (16.4%)	13 (11.8%)
16 – 30	86 (39.1%)	37 (33.6%)	49 (44.5%)
31 – 45	35 (15.9%)	18 (16.4%)	17 (15.5%)
46 – 60	6 (2.7%)	2 (1.8%)	3 (3.6%)

*$p < .05$

5.6 History of Military Service

Data regarding history of military service were collected from respondents who identified themselves as veterans during the course of the interview (see Table 5.7). All five branches of the military were represented with most veteran respondents reporting service in the Army (n = 54, 49.1%). Smaller percentages reported service in the Marine Corps (n = 25, 22.7%), Navy (n = 19, 17.3%), and Air Force (n = 11, 10.0%). Only 1 (.9%) respondent reported serving in the United States Coast Guard. The majority of veterans (n = 109, 99.1%) reported being in the enlisted or non-commissioned officer ranks at the time of their discharge. Only 1 (.9%) respondent indicating they discharged from the military as a commissioned officer. Average duration of active duty service for the entire veteran subsample was 1514.87 days (sd = 1123.15) with lengths of service ranging from 46 to 7300 days. Just over 70 veterans (n = 74, 63.7%) identified they were

honorably discharged, 25 (22.7%) reported a *general* discharge, and 11 (10.0%) stated they received a *medical* discharge.

Additional military service variables included *era of service* and respondent's experiences serving in a war zone. Most veterans (87.2%) reported serving in either the *Vietnam Era* (n = 47; 42.7%) or the *Post-Vietnam Era* (n = 49; 44.5%). Twelve (10.9%) respondents discussed service during the *Persian Gulf Era* which includes ongoing military operations in Iraq and Afghanistan. The remaining 2 (1.8%) members of the veteran subgroup reported service during the *Korean War Era*. Almost one-third of veteran respondents (n = 32, 29.1%) reported serving in a war zone. Of these, 20 (62.5%) served in Vietnam, 8 (25%) served in the Persian Gulf, 2 (6.3%) served in Korea, and the remaining 2 (6.3%) reported *other*. Twenty-three (71.9%) of those who did serve in a war zone did report receiving hostile or friendly fire with 9 (28.1%) of those being wounded.

Table 5.7 History of Military Service

Variable	Total Veteran Subgroup (n = 110)
Branch of Service	
Army	54 (49.1%)
Marine Corps	25 (22.7%)
Navy	19 (17.3%)
Air Force	11 (10.0%)
Coast Guard	1 (.9%)
Rank at Time of Discharge	
Enlisted (E1 – E4)	90 (81.7%)
Non-Commissioned Officer (E5 – E9)	19 (17.3%)
Commissioned Officer	1 (.9%)
Duration of Active Duty in Days	M = 1514.87 (sd = 1123.15 (range = 46 – 7300)
Type of Discharge	
Honorable	74 (67.3%)
General	25 (22.7%)
Medical	11 (10.0%)
Era of Service (Dates of Era)	
Post-Vietnam (5/1975 – 4/1991))	49 (44.5%)
Vietnam (8/1964 – 4/1975)	47 (42.7%)
Persian Gulf (8/1991 – Present)	12 (10.9%)
Korea (6/1950 – 1/1955)	2 (1.8%)
Served in a War Zone?	
Yes	32 (29.1%)

Table 5.7 - *Continued*

Variable	Total Veteran Subgroup (n = 110)
If Yes to War Zone Service, Which War Zone?	
Vietnam	20 (62.5%)
Persian Gulf	8 (25.0%)
Korea	2 (6.3%)
Other	2 (6.3%)
If Yes to War Zone Service, Did You Receive Hostile or Friendly Fire?	
Yes	23 (71.9%)
No	9 (28.1%)
If Yes to War Zone Service, Were You Wounded in a War Zone?	
Yes	9 (28.1%)
No	23 (71.9%)

Final variables of interest for the veteran subgroup pertained to military pension, VA disability status, and access to VA services in the last 12 months (see Table 5.8). Almost one-fifth of all veterans (n = 21, 19.1%) stated that they receive a VA non-service connected pension. The mean amount was 871.90 dollars (sd = 275.51) per month. Almost one-fifth of veteran (n = 20, 18.2%) stated they possessed a disability and all respondents reported their disability was connected to a medical problem. However, 2 (10.0%) of the 20 stated that they also possessed a psychiatric disability. Disability ratings reported by the respondents ranged from 0% to 100%. Finally, veterans were asked how much of the last 12 months had they been able to access services through the VA. A clear majority (n = 93, 84.5%) identified that they could have gone to the VA at any time during the last year for some type of service. A much smaller number (n = 4, 3.6%) reported they could have accessed VA services for some period of time less than the full 12 months. Finally, 13 (11.8%) of the respondents stated they were not eligible to access VA service in the last year.

Table 5.8 VA Pension Status, Disability Status, and VA Access

Variable	Veteran Subgroup (n = 110)
Receives VA Non-Service Connected Pension	
Yes	21 (19.1%)
No	89 (80.9%)

Table 5.8 - *Continued*

Variable	Veteran Subgroup (n = 110)
If Yes, Amount of Pension Received in Dollars	M = 871.90 (sd = 275.51) (Range = 300 – 1500)
Possesses VA Service-Connected Disability	
Yes	20 (18.2%)
No	90 (81.8%)
If Yes, Is this for a Medical Problem?	
Yes	20 (100.0%)
No	0
If Yes, Is this for a Psychiatric Problem?	
Yes	2 (10.0%)
No	18 (90.0%)
What is Your Total VA Service-Connected Disability Rating?	
0%	4 (20.0%)
10%	5 (25.0%)
20%	2 (10.0%)
30%	1 (5.0%)
40%	3 (15.0%)
50%	1 (5.0%)
60%	1 (5.0%)
100%	2 (10.0%)
How Much of the Last 12 Months Could You Have Accessed VA Services?	
Not at All	13 (11.8%)
Less than 3 Months	2 (1.8%)
3 – 7 Months	1 (0.9%)
7 – 11 Months	1 (0.9%)
All Year	93 (84.5%)

5.7 Hardiness, Health, and Substance Abuse

Several standardized instruments were used to collect data pertinent to the study hypotheses (see Table 5.9) including the Dispositional Resilience Scale – 15R (DRS-15R) and the Veterans Rand 12 Item Health Survey (VR-12). For the DRS-15R, the total sample mean score was 29.03 (sd = 6.29). Veterans averaged 29.50 (sd = 6.75) and non-veterans averaged 28.56 (sd = 5.79). No statistically significant difference existed between the veteran and non-veteran subgroup for DRS-15R scores ($t(218) = 1.104$, $p = .271$). Compared with the normed population score of 29.2 (sd = 4.60), no significant differences existed for the total sample ($t(219) = -.441$, $p = .660$), the veteran subgroup ($t(109) = .646$, $p = .519$), and the non-veteran subgroup ($t(109) = -1.153$, $p = .251$).

Scores for the VR-12 physical health functioning composite subscale averaged 44.93 (sd = 8.84) for the total sample, 43.83 (sd = 9.12) for veterans, and 46.03 (sd = 8.44) for the non-veteran subgroup. While not statistically significant at the predetermined alpha level ($p \leq .05$), the difference between the veteran and non-veteran physical health functioning subscales did approach significance ($t(218) = -1.859$, $p = .064$). Comparing physical health functioning scores with the standard population mean of 50.00 (sd = 10.00), scores for the total sample ($t(219) = -8.512$, $p = .000$), veteran subgroup ($t(109) = -7.10$, $p = .000$), and non-veteran subgroup ($t(109) = -4.93$, $p = .000$) were statistically significantly lower. In addition to the physical functioning score, the VR-12 also measured changes in physical health over the last 12 months. The total sample score (M = 3.31, sd = 1.09) indicated the average respondent's health fell between *about the same* and *slightly worse.* Veteran (M = 3.34, sd = 1.09) and non-veteran (M = 3.28, sd = 1.10) scores were not statistically significantly different ($t(218) = .368$, $p = .713$).

Similar analyses were conducted for the VR-12 mental health functioning subscale. Total sample mean scores (M = 39.96, sd = 13.54) were significantly lower ($t(219) = -10.990$, $p = .000$) than the normed population mean of 50.00 (sd = 10.00). Veteran (M = 39.40, sd = 14.31) and non-veteran (M = 40.54, sd = 12.77) were not found to be statistically significantly different from each other ($t(218) = -.623$, $p = .543$) but when compared to the normed population mean, a statistically significant difference existed for the veteran ($t(109) = -7.77$, $p = .000$) and non-veteran ($t(109) = -7.78$, $p = .000$) subgroups. Asked to discuss changes in their mental health in the last year the total sample reported a score falling between *about the same* and *getting worse* (M = 3.37, sd = 1.10). No statistically significant difference was found between veteran (M = 3.50, sd = 1.11) and non-veteran M = 3.24, sd = 1.07) scores ($t(218) = 1.72$, $p = .086$).

Additional instruments included the Michigan Alcohol Screening Test (MAST), and the Drug Abuse Screening Test (DAST). The mean total sample MAST score was 11.67 (sd = 9.24) with veterans averaging 11.91 (sd = 9.94) and non-veterans averaging 11.44 (sd = 8.53). No statistically significant differences existed when comparing veteran and non-veteran subgroup MAST scores ($t(218) = .378$, $p = .705$). However, using a MAST threshold score of 5 or more

(Corcoran and Fischer, 2007), 171 (77.7%) of the total sample including 86 (78.2%) veterans and 85 (77.3%) of non-veterans indicated a history of alcoholism. For the DAST, the mean total sample score was 4.16 (sd = 3.05) with a veteran subgroup mean score of 4.07 (sd = 3.14) and a non-veteran subgroup mean score of 4.25 (sd = 2.98). No statistically significant difference was found to exist between the veteran and non-veteran subgroups ($t(218) = -1.203$, $p = .230$). Using a DAST threshold score of 3 or more (Bohn, Babor, and Kranzler, 1991), 126 (58.3%) of the total sample, 61 (55.5%) veterans, and 65 (59.1%) non-veterans indicated they had experienced a drug problem in the last 12 months.

Table 5.9 Hardiness, Health, and Substance Use

Variable	Total Sample (n=220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
DRS-15R	M = 29.03 (sd = 6.29)	M = 29.50 (sd = 6.75)	M = 28.56 (sd = 5.79)
VR-12 Physical Health Composite Subscale	M = 44.93 (sd = 8.84)	M = 43.83 (sd = 9.12)	M = 46.03 (sd = 8.44)
VR-12 Mental Health Composite Subscale	M = 39.97 (sd = 13.54)	M = 39.40 (sd = 14.31)	M = 40.54 (sd = 12.76)
MAST	M = 14.67 (sd = 6.45)	M = 14.93 (sd = 6.47)	M = 14.42 (sd = 6.46)
DAST	M = 4.16 (sd = 3.05)	M = 4.07 (sd = 3.14)	M = 4.25 (sd = 2.98)

*$p < .05$

5.8 Alcohol and Drug Consumption

In addition to the MAST and DAST, additional survey items asked study respondents to discuss substance use in the last 30 days (see Table 5.10). Substances included tobacco, alcohol, marijuana, cocaine, inhalants, opiates, hallucinogens, and amphetamines.

Table 5.10 Alcohol and Drug Consumption

Variable	Total Sample (n = 220) Number (Percent)	Veteran Subgroup (n = 110) Number (Percent)	Non-Veteran Subgroup (n = 110) Number (Percent)
Used Tobacco			
Yes	204 (92.7%)	101 (91.8%)	103 (93.6%)
No	16 (17.3%)	9 (8.2%)	7 (6.4%)

Table 5.10 - *Continued*

Variable	Total Sample (n = 220) Number (Percent)	Veteran Subgroup (n = 110) Number (Percent)	Non-Veteran Subgroup (n = 110) Number (Percent)
Used Alcohol			
Yes	149 (67.7%)	70 (63.6%)	79 (71.8%)
No	71 (32.3%)	40 (36.4%)	31 (28.2%)
Used Cocaine			
Yes	86 (39.1%)	42 (38.2%)	44 (40.0%)
No	134 (63.2%)	68 (61.8%)	66 (60.0%)
Used Inhalants			
Yes	0	0	0
No	220 (100.0%)	110 (100.0%)	110 (100.0%)
Used Opiates			
Yes	7 (3.2%)	3 (2.7%)	4 (3.6%)
No	213 (96.8%)	107 (97.3%)	106 (96.4%)
Used Hallucinogens			
Yes	0	0	0
No	220 (100.0%)	110 (100.0%)	110 (100.0%)
Used Amphetamines			
Yes	2 (.9%)	0	2 (1.8%)
No	218 (99.1%)	110 (100.0%)	108 (98.2%)

*$p < .05$

Tobacco was the most commonly used substance cited by the total sample (92.7%), veteran subgroup (91.8%), and non-veteran subgroup (93.6%). Alcohol was the next most commonly used substance as 149 (67.7%) total sample respondents, 70 (63.6%) veterans subgroup, and 79 (71.8%) non-veterans reported use in the last thirty days. Among the remaining substances, marijuana and cocaine were used by over one-third of the total sample, veteran subgroup and non-veteran subgroup. The number of respondents reporting any use of inhalants, opiates, hallucinogens, and amphetamines were much lower. No statistically significant association was found between veteran status and the use of tobacco ($\chi^2(1) = .270$, $p = .604$), alcohol ($\chi^2(1) = 1.684$, $p = .194$), marijuana ($\chi^2(1) = .957$, $p = .201$), and cocaine ($\chi^2(1) = .076$, $p = .782$).

In addition to evaluating if specific substances were used or not, study respondents estimated the number of days of alcohol or drug use in the last thirty (see Table 5.11). Only respondents reporting use of a particular substance were included in these analyses.

Table 5.11 Frequency of Alcohol and Drug Consumption

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Days of Tobacco Use	M = 27.01 (sd = 7.09)	M = 26.67 (sd = 7.52)	M = 27.34 (sd = 6.67)
Days of Alcohol Use	M = 11.40 (sd = 9.32)	M = 10.97 (sd = 9.17)	M = 11.78 (sd = 9.50)
Days of Marijuana Use	M = 9.96 (sd = 9.95)	M = 7.03 (sd = 8.34)	M = 12.43* (sd = 10.60)
Days of Cocaine Use	M = 9.22 (sd = 8.38)	M = 9.17 (sd = 8.30)	M = 9.27 (sd = 8.56)
Days of Inhalant Use	0	0	0
Days of Opiate Use	M = 3.14 (sd = 3.34)	M = 5.33 (sd = 4.51)	M = 1.50 (sd = .58)
Days of Hallucinogen Use	0	0	0
Days of Amphetamine Use	M = 2.50 (sd = .70)	0	M = 2.50 (sd = .70)

*($p < .05$)

Tobacco was the most frequently used substance. The mean number of days of tobacco for all study respondents in the last 30 was 27.01 (sd = 7.09). No significant difference (t(202) = -.670, p = .503) existed between veterans (26.67, sd = 7.52) and non-veterans (27.34, sd = 6.67) on this variable. Mean days of alcohol use for the total sample was 11.40 (sd = 9.32) and no statistically significant difference existed between veterans (M = 10.97, sd = 9.17) and non-veterans (M = 11.78, sd = 9.50) on this variable (t(147) = -.530, p = .597). Among those who reported any marijuana use, non-veterans (M = 12.43, sd = 10.60) reported a significantly higher (t(79) = -2.515, p = .014) rate of marijuana use than veterans (M = 7.03, sd = 8.34). No statistically significant difference was found between veterans (M = 9.17, sd = 8.30) and non-veterans (M = 9.27, sd = 8.56) and the frequency of cocaine use (t(84) = -.058, p = .954) For the remaining substances, mean days of use were much less than those for tobacco, alcohol, marijuana, and cocaine.

5.9 Service Utilization

During the course of the study, data was collected regarding the use of homeless assistance services. The 5 distinct service sectors included:

1. Medical services

2. Mental health services,
3. Substance abuse services,
4. Homelessness maintenance services
5. Homelessness amelioration services

For each sector, respondents discussed use of key sector services within a specified time interval (See Appendix A). Table 4.1 previously identified the different service sectors, the specific services identified within each sector, the unit of service measured, and the time interval used to assess the use of each service.

Both the veteran and non-veteran study subgroups discussed their use of homelessness assistance services. For the veteran subgroup, this included services offered by the United States Department of Veterans (VA) and those services offered by non-VA entities. The non-veteran subgroup was not asked to discuss their use of VA services because they are typically not eligible for them. Each sector will be discussed separately initially identifying the proportion of the total sample, veteran subgroup, and non-veteran subgroup who utilized a specific service. Additional findings focused on the veteran subgroup only and evaluated their use of *VA service only*, *non-VA services only*, or *both VA and non-VA services*.

Findings regarding *frequency* of service utilization will also be presented and included only respondents who used a particular service. Subsequent findings then evaluated the veteran subgroup in order to differentiate the frequency of use for respondents who used VA service only, non-VA services only, and those who used both. Consistent with findings presented earlier, parametric and non-parametric inferential statistics were used to evaluate differences and associations between the veteran and non-veteran subgroups.

5.9.1 Medical Sector

5.9.1.1 Medical Sector Utilization

Medical sector service variables included the use of emergency room, inpatient, and outpatient services for a problem medical in nature. For all variables, the measurement interval

was the last 12 months prior to the interview. Table 5.12 illustrates the findings for this service sector:

Table 5.12 12 - Month Medical Sector Service Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Utilized Medical ER Services			
Yes	116 (52.7%)	61 (55.5%)	55 (50.0%)
No	104 (47.3%)	49 (44.5%)	55 (50.0%)
Admitted Overnight to a Hospital for a Medical Problem			
Yes	72 (32.7%)	38 (34.5%)	34 (30.9%)
No	148 (67.3%)	72 (65.5%)	76 (69.1%)
Utilized Outpatient Medical Services			
Yes	121 (55.0%)	76 (69.1%)	45 (40.9%)*
No	99 (45.0%)	34 (30.9%)	65 (59.1%)

*$p < .05$

Just over half of the total sample (n = 116; 52.7%) reported using an ER in the last 12 months. This included 61 veterans (55.5%) and 55 (50.0%) non-veterans. Less than one-third of the total sample (n = 72; 32.7%) reported being admitted overnight to a hospital which included similar numbers of veterans (n = 38) and non-veterans (n = 34). Outpatient medical care was the most commonly used service in the medical sector with 121 (55.5%) respondents in the total sample reporting use of these services. For the study subgroups, 76 (69.1%) of the veteran subgroup and 65 (59.1%) of the non-veteran subgroup reported using outpatient medical services in the last 12 months. For medical sector services, no statistically significant association existed between veteran status, use of ER services ($\chi^2(1) = .656$, $p = .418$), and being admitted to the hospital ($\chi^2(1) = .330$, $p = .565$). A statistically significant association existed between veteran status and the use of outpatient medical services ($\chi^2(1) = 17.649$, $p = .000$)

Further analyses delineated the use of medical sector services by the veteran subgroup only (see Table 5.13):

Table 5.13 12 - Month Medical Sector Utilization – Veterans Only

Variable	Total Number Using Service	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Medical ER Services Yes	61 (100.0%)	16 (26.2%)	37 (60.7%)	8 (13.1%)
Admitted to a Hospital for a Medical Problem Yes	38 (100.0%)	16 (42.1%)	20 (52.6%)	2 (5.3%)
Utilized Outpatient Medical Services Yes	76 (100.0%)	53 (69.7%)	11 (14.5%)	12 (15.8%)

Of the 61 veterans who used some type of medical ER service in the last 12 months, most visited a non-VA ER only (n = 37; 60.7%) versus a VA ER only (n = 16; 26.2%). A smaller number of veterans utilized both VA and non-VA ER services (n = 8; 13.1%) in the last 12 months. Similarly, veterans admitted to a hospital for a medical problem in the last 12 months (n = 38), utilized a non-VA hospital (n = 20; 52.6%) versus a VA hospital (n = 16; 42.1%) with a smaller number of veterans being admitted to both (n = 2; 5.3%). Most veterans utilized VA outpatient medical services only (n = 53, 69.7%) with the next largest number of respondents utilizing both VA and non-VA outpatient medical services (n = 12; 15.8%). The smallest number of veterans who accessed outpatient medical care in the last 12 months were those respondents who utilized non-VA services only (n = 11; 14.5%).

5.9.1.2. Frequency of Medical Sector Utilization

Findings are also presented regarding the frequency of medical sector services use in the last 12 months (see Table 5.14). Non-veterans (M = 3.05, sd = 4.44), on average, visited emergency rooms more frequently in the last 12 months and were more frequently admitted than veterans (M = 2.11, sd = 1.78). Non-veterans (M = 1.71, sd = 1.06) were also admitted more frequently for inpatient care than veterans (M = 1.31, sd = .66) and when admitted, remained in the hospital longer (M = 9.79, sd = 16.02). For outpatient medical service utilization, the veteran subgroup (M = 7.66, sd = 13.51) reported a higher utilization rate than the non-veteran group (M = 6.42, sd = 9.89). Despite these differences, no statistically significant differences existed

between these groups in the frequency of ER ($t(114) = -1.123$, $p = .130$), inpatient hospital admissions ($t(70) = -1.894$, $p = .062$), length of inpatient hospital admissions ($t(71) = -.337$, $p = .737$), and outpatient visits ($t(119) = .655$, $p = .514$).

Table 5.14 12 - Month Frequency of Medical Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Medical ER Visits	M = 2.56 (sd = 3.34)	M = 2.11 (sd = 1.78)	M = 3.05 (sd = 4.44)
Inpatient Medical Admissions	M = 1.50 (sd = .88)	M = 1.31 (sd = .66)	M = 1.71 (sd = 1.06)
Days of Medical Inpatient Admissions	M = 9.10 (sd = 16.41)	M = 8.49 (sd = 16.93)	M = 9.79 (sd = 16.02)
Outpatient Medical Visits	M = 7.10 (sd = 12.17)	M = 7.66 (sd = 13.51)	M = 6.42 (sd = 9.89)

*$p < .05$

Additional findings evaluated the use of medical services by veterans and whether differences existed in their use of VA services, non-VA services, or both (see Table 5.15). Veterans who utilized VA and non-VA emergency room (M = 4.25, sd = 3.37) and inpatient medical services (M = 3.50, sd = .70) used them twice as often as veterans who used VA or non-VA services exclusively. Veterans who utilized both VA and non-VA hospitals for inpatient care were noted to have remained in the hospital much longer (M = 39.33, sd = 56.01) than those who used VA (M = 5.82, sd = 4.14) or non-VA (M = 6.00, sd = 8.33) hospitals exclusively. A less consistent pattern was noted for outpatient medical services. Veterans who used both VA and non-VA services (M = 10.25, sd = 8.84) used them twice as frequently as those who used non-VA services exclusively (M = 7.45, sd = 15.32). However, the differential was less when compared to those who used VA services exclusively (M = 5.82, sd = 7.11).

Table 5.15 12 – Month Frequency of Medical Sector Utilization – Veterans Only

Variable	Total Utilization Rate	VA Services Only	Non-VA Services Only	Used Both VA and Non-VA Services
Medical ER Visits	M = 2.11 (sd = 1.78)	M = 1.62 (sd = .71)	M = 1.86 (sd = 1.29)	M = 4.25 (sd = 3.37)
Inpatient Medical Admissions	M = 1.31 (sd = .66)	M = 1.06 (sd = .25)	M = 1.30 (sd = .47)	M = 3.50 (sd = .70)

Table 5.15 - *Continued*

Variable	Total Utilization Rate	VA Services Only	Non-VA Services Only	Used Both VA and Non-VA Services
Days of Medical Inpatient Admissions	M = 8.49 (sd = 16.93)	M = 5.82 (sd = 4.14)	M = 6.00 (sd = 8.33)	M = 39.33 (sd = 56.01)
Outpatient Medical Visits	M = 7.66 (sd = 13.51)	M = 7.45 (sd = 15.32)	M = 5.82 (sd = 7.11)	M = 10.25 (sd = 8.84)

5.9.2 Psychiatric Sector

5.9.2.1 Psychiatric Sector Utilization

Interview respondents discussed whether they used psychiatric services in the last 12 months and the frequency of psychiatric service utilization. As with the medical sector, specific service types included emergency room care, inpatient hospitalizations, and outpatient care. As noted in Table 5.16, 13.6% (n = 30) of the total sample used an emergency room for a psychiatric problem in the last 12 months. Over 15.0% (n = 36) of the total sample spent the night in a hospital because of a mental health problem in the last 12 months and just under one-third of the total sample (n = 73) visited an outpatient mental health provider during that same time.

Comparing study subgroups indicated veterans used significantly more psychiatric ER ($\chi^2(1) = 7.565$, $p = .006$), inpatient ($\chi^2(1) = 4.783$, $p = .029$), and outpatient services ($\chi^2(1) = 19.702$, $p = .000$) than non-veterans. For emergency room services, 20.0% (n = 22) of the veteran subgroup reported utilizing these services versus 7.3% (n = 8) of the non-veterans. Similar differences existed between the number of veterans (n = 24, 21.8%) and non-veterans (n = 12, 10.9%) admitted for inpatient psychiatric care as well as the number of veterans (n = 52, 47.3%) seeking outpatient psychiatric care versus non-veterans (n = 21, 19.1%).

Table 5.16 12 – Month Psychiatric Sector Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Psychiatric ER Services?			
Yes	30 (13.6%)	22 (20.0%)	8 (7.3%)*
No	190 (86.4%)	88 (80.0%)	102 (92.7%)

Table 5.16 - *Continued*

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Psychiatric Inpatient Hospital Admission?			
Yes	36 (16.4%)	24 (21.8%)	12 (10.9%)*
No	184 (83.6%)	86 (78.2%)	98 (89.1%)
Outpatient Psychiatric Services?			
Yes	73 (33.2%)	52 (47.3%)	21 (19.1%)*
No	147 (66.8%)	58 (52.7%)	89 (80.9%)

* $p < .05$

The veteran subgroup was also evaluated whether they used VA psychiatric services exclusively, non-VA psychiatric services exclusively, or both. (see Table 5.17). Veterans who required psychiatric services tended to use non-VA emergency room services (n = 12; 54.5%) and non-VA inpatient facilities for inpatient psychiatric care (n = 12; 50.0%). Smaller numbers reported using services at VA facilities or through both VA and non-VA providers in the last 12 months. However, for outpatient psychiatric care, over two-thirds (n = 35; 67.3%) of the veteran sample reported utilizing only VA services. A lesser percentage utilized non-VA care (n = 13; 25.0%) or both VA and non-VA services (n = 4; 7.7%).

Table 5.17. 12 – Month Psychiatric Sector Utilization – Veterans Only

Variable	Total Number Using Service	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Psychiatric ER Services				
Yes	22 (100.0%)	8 (36.4%)	12 (54.5%)	2 (9.1%)
Admitted to a Hospital for a Psychiatric Problem				
Yes	24 (100.0%)	10 (41.7%)	12 (50.0%)	2 (8.3%)
Utilized Outpatient Psychiatric Services				
Yes	52 (100.0%)	35 (67.3%)	13 (25.0%)	4 (7.7%)

5.9.2.2 Frequency of Psychiatric Sector Utilization

The frequency of psychiatric service utilization was also assessed and is presented in Table 5.18. For the total sample, the mean number of emergency room visits was 1.77 (sd =

1.04) and visits for outpatient psychiatric care was 7.77 (sd = 10.48). For those admitted for inpatient psychiatric care, the average number of admissions was 1.63 in the last 12 months with an average admission length of 18.63 (sd = 21.77) days. Comparing veteran and non-veteran subgroups indicated that veterans (M = 1.82, sd = 1.05) sought emergency room care for psychiatric problems more frequently than non-veterans (M = 1.63 , sd = 1.06) and also sought inpatient care (M = 1.75, sd = 1.54) more frequently than non-veterans (M = 1.50, sd = 1.00). When veterans (M = 21.00, sd = 23.39) were admitted for inpatient psychiatric care, they also stayed longer than non-veterans (M = 12.83, sd = 17.63). The only psychiatric sector service indicating more frequent use by non-veterans was outpatient psychiatric visits with non-veterans averaging 11.29 (sd = 13.42) visits in the last 12 months versus 6.35 (sd = 8.79) visits for veterans. For all these comparisons however, no statistically significant differences existed for frequency of emergency room utilization ($t(28) = .444$, $p = .661$), inpatient hospital admission ($t(34) = .509$, $p = .614$), length of inpatient admission ($t(33) = .950$, $p = .349$), and outpatient visits ($t(71) = -1.854$, $p = .068$).

Table 5.18 12 – Month Frequency of Psychiatric Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Psychiatric ER Visits	M = 1.77 (sd = 1.04)	M = 1.82 (sd = 1.05)	M = 1.63 (sd = 1.06)
Inpatient Psychiatric Admissions	M = 1.63 (sd = 1.37)	M = 1.75 (sd = 1.54)	M = 1.50 (sd = 1.00)
Days of Inpatient Psychiatric Admissions	M = 18.63 (sd = 21.77)	M = 21.00 (sd = 23.39)	M = 12.83 (sd = 17.63)
Outpatient Psychiatric Visits	M = 7.77 (sd = 10.48)	M = 6.35 (sd = 8.79)	M = 11.29 (sd = 13.42)

*$p < .05$

Additional service-use frequency findings identified veteran's use of VA services only, non-VA services only, or the use of both (see Table 5.19). Veterans who used both VA and non-VA psychiatric services reported higher rates of ER visits (M = 3.00, sd = 1.41), inpatient admissions (M = 5.00, sd = 4.24), and were admitted longer for inpatient care (M = 56.00, sd =

32.53). Among those using only VA or non-VA services, VA ER (M = 1.50, sd = .926) and inpatient (M = 1.40, sd = .84) psychiatric services were less frequently used than non-VA ER (M = 1.83, sd = 1.03) and inpatient services (M = 1.50, sd = .80). Additional differences include longer inpatient stays for veterans using VA inpatient psychiatric care only (M = 31.40, sd = 24.22) than those using non-VA inpatient care only (M = 6.50, sd = 4.15). Finally non-VA psychiatric outpatient providers were used more frequently (M = 9.69, sd = 15.70) than VA outpatient providers (M = 4.74, sd = 3.52).

Table 5.19 12 – Month Frequency of Psychiatric Sector Utilization – Veterans Only

Variable	Total Utilization Rate	VA Services Only	Non-VA Services Only	Used Both VA and Non-VA Services
Psychiatric ER Visits	M = 1.77 (sd = 1.04)	M = 1.50 (sd = .926)	M = 1.83 (sd = 1.03)	M = 3.00 (sd = 1.41)
Inpatient Psychiatric Admissions	M = 1.63 (sd = 1.37)	M = 1.40 (sd = .84)	M = 1.50 (sd = .80)	M = 5.00 (sd = 4.24)
Psychiatric Inpatient Admission days	M = 18.63 (sd = 21.77)	M = 31.40 (sd = 24.22)	M = 6.50 (sd = 4.15)	M = 56.00 (sd = 32.53)
Outpatient Psychiatric Visits	M = 7.77 (sd = 10.48)	M = 4.74 (sd =3.52)	M = 9.69 (sd = 15.70)	M = 9.50 (sd = 9.68)

5.9.3 Substance Abuse Sector

5.9.3.1 Substance Abuse Sector Utilization

During the interview, respondents discussed use of substance abuse-related services in the last 12 months. Services included:

1. Emergency room (ER) visits for a substance abuse-related problem
2. Inpatient hospital admissions for a substance abuse-related problem
3. Inpatient substance abuse treatment admissions
4. Days of inpatient substance abuse treatment
5. Outpatient substance abuse treatment admissions
6. Days of outpatient substance abuse treatment

As indicated in table 5.20 below, fewer members of the total sample and study subgroups utilized substance abuse-related services versus medical and psychiatric services. For the total sample, 10 (4.5%) respondents used the emergency room for a substance abuse related problem, 5 (2.3%) were admitted to a hospital, 40 (18.2%) were admitted to inpatient treatment, and 25 (11.4%) used outpatient treatment. Contrasting the study groups, non-veterans accessed more substance abuse-related emergency room services (n = 7; 6.40%), hospital admissions (n = 4; 3.6%), and outpatient treatment services (n = 13; 11.8%) in the last 12 months than veterans. Despite these differences, none were found to be statistically significant. However, significantly more veterans (n = 27, 24.5%) than non-veterans (n = 13, 11.8%) utilized inpatient substance abuse treatment services ($\chi^2(1) = 5.989$, $p = .014$).

Table 5.20 12 – Month Substance Abuse Sector Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Used ER for SA Problem?			
Yes	10 (4.5%)	3 (2.7%)	7 (6.4%)
No	210 (95.5%)	107 (97.3%)	103 (93.6%)
Admitted to a Hospital for an SA problem?			
Yes	5 (2.3%)	1 (.9%)	4 (3.6%)
No	215 (97.7%)	109 (99.1%)	106 (96.4%)
Admitted to Inpatient SA Treatment?			
Yes	40 (18.2%)	27 (24.5%)	13 (11.8%)*
No	180 (81.8%)	83 (75.5%)	97 (88.2%)
Used SA Outpatient Services?			
Yes	25 (11.4%)	12 (10.9%)	13 (11.8%)
No	195 (88.6%)	98 (89.1%)	97 (88.2%)

*$p > .05$

For the veteran subgroup, further analyses determined the proportion of veterans who used VA substance abuse services exclusively, non-VA substance abuse services exclusively, and those who used both (see Table 5.21). No veterans used VA resources exclusively when they required emergency room services or inpatient hospital care for a substance abuse related problem. In terms of inpatient substance abuse treatment, 7 (26.0%) of the 27 veterans obtained

treatment only through the VA. Of those remaining, 19 (70.3%) obtained treatment only through non-VA sources while 1 (3.7%) individual used both VA and non-VA resources for inpatient substance abuse treatment. When asked about the use of outpatient substance abuse treatment services, 12 accessed this treatment including 3 (25.0%) who utilized only VA services and 9 (75.0%) who only utilized non-VA services. No veterans reported using both VA and non-VA outpatient resources in the last 12 weeks.

Table 5.21 12 – Month Substance Abuse Sector Utilization – Veterans Only

Variable	Number Using Service (n = 110)	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Substance-Abuse ER Services Yes	3 (100.0%)	3 (100.0%)	0	0
Admitted to a Hospital for a Substance Abuse Problem Yes	1 (100.0%)	1 (100.0%)	0	0
Admitted to Inpatient Substance Abuse Treatment Yes	27 (100.0%)	7 (26.0%)	19 (70.3%)	1 (3.7%)
Utilized Outpatient Substance Abuse Services Yes	12 (100.0%)	3 (25.0%)	9 (75.0%)	0

5.9.3.2 Frequency of Substance Abuse Sector Utilization

Respondents who utilized substance abuse services in the last 12 months were asked to discuss the frequency of utilization (see Table 5.22). Total sample results indicated an average of 1.50 (sd = .48) emergency room visits, 1.40 (sd = .89) inpatient hospital admissions, 4.80 (sd = 2.05) inpatient treatment admissions, and 1.16 (sd = .80) outpatient admissions for problems related to substance use. The average total sample respondent also spent 4.80 (sd = 2.05) days in the hospital, 30.50 (sd = 13.43) days in inpatient treatment, and 64.79 (sd = 105.98) days in outpatient treatment.

While differences existed between veteran and non-veteran study subgroups, mean scores for ER visits, inpatient treatment admissions, inpatient treatment admission days, and

outpatient treatment admissions seemed comparable. Days of outpatient treatment admissions represented the largest difference between the study group means with the veterans averaging 111.72 (sd = 142.23) days in outpatient treatment versus 25.08 (sd = 30.70) for non-veterans. However, no significant difference existed between veterans and non-veterans in terms of the number of admissions to inpatient substance abuse treatment (U = 175.00, p = .975), days of inpatient treatment (U = 155.00, p = .547), outpatient treatment admissions (U = 71.50, p = .298), and days of outpatient treatment (U = 48.00, p = .171).

Table 5.22 12 – Month Frequency of Substance Abuse Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
ER Visits for SA Problem	M = 1.30 (sd = .48)	M = 1.33 (SD = .58)	M = 1.29 (sd = .488)
Inpatient SA Hospital Admissions	M = 1.40 (sd = .89)	1 admission	M = 1.50 (sd = 1.00)
Inpatient SA Hospital Days	M = 4.80 (sd = 2.05)	3 days	M = 5.25 (sd = 2.06)
Inpatient SA Treatment Admissions	M = 1.08 (sd = .27)	M = 1.07 (sd = .26)	M = 1.08 (sd = .27)
Inpatient SA Treatment days	M = 30.50 (sd = 13.43)	M = 31.11 (sd = 15.45)	M = 29.23 (sd = 8.105)
Outpatient SA Treatment Admissions	M = 1.16 (sd = .80)	M = 1.33 (sd = 1.16)	M = 1.00 (sd = 0.00)
Outpatient SA Treatment Days	M = 64.79 (sd = 105.98)	M = 111.73 (*sd* = 142.23)	M = 25.08 (*sd* = 30.70)

Evaluating these findings, it is important to note the impact of statistical outliers on the analysis. Two veteran respondents reported outpatient substance abuse treatment and discussed involvement in a methadone treatment program. This treatment program typically involves frequent visits to a program site in order to pick up their medication. While weekly *pick-up* frequency varied, one respondent traveled to the program site on a daily basis while the other respondent visited the program 6 days per week. The frequency of utilization reported by these respondents, 365 and 312, in the last 12 months had a considerable impact on the larger service-user mean.

Final substance abuse sector findings for the substance abuse sector identified the frequency of utilization for the veteran subgroup according to whether they used VA services exclusively, non-VA services exclusively, or both. Descriptive statistics were generated for these variables but the generally low numbers of respondents utilizing these services must be acknowledged. As noted in Table 5.23, VA emergency services were used 1.33 (sd = .58) times in the last 12 months with no non-VA emergency service use reported. A single veteran reported 1 admission to a VA hospital for a substance abuse-related health problem and the length of stay was 3 days. Mean number of admissions (n = 7) for VA-only inpatient substance abuse treatment was 1.00 (sd = 0.00) in the last 12 months and 1.05 (sd = 0.23) for non-VA only treatment admissions (n = 19). One veteran reported both VA and non-VA inpatient treatment utilization and indicated one admission to each provider. For inpatient substance abuse treatment, the average admission length for VA services was 39.71 (sd = 27.09) versus 27.37 (sd = 7.10) for non-VA services.

Veterans seeking outpatient substance abuse treatment in the last 12 months (n = 12) were more often admitted to VA programs (M = 2.33, sd = 2.31) than non-VA programs (M = 1.00, sd = 0.00). Veterans who only used VA outpatient programs tended to remain in these programs longer with an average stay of 166.50 (sd = 205.77) days versus veterans who only used non-VA outpatient services (M = 99.56, sd = 138.17).

Table 5.23 12 – Month Frequency of Substance Abuse Sector Utilization – Veterans Only

Variable	Total Utilization Rate	VA Services Only	Non-VA Services Only	Used Both VA and Non-VA Services
Substance Abuse ER Visits	M = 1.33 (SD = .58)	M = 1.33 (sd = .58)	0	0
Substance Abuse Hospital Admissions	1	1	0	0
Substance Abuse Hospital Admission Days	3.00	3.00	0	0
Inpatient Substance Abuse Admissions	M = 1.07 (sd = .26)	M = 1.00 (sd = 0.00)	M = 1.05 (sd = .23)	M = 2.00 (sd = 0.00)

Table 5.23 – *Continued*

Variable	Total Utilization Rate	VA Services Only	Non-VA Services Only	Used Both VA and Non-VA Services
Inpatient Substance Abuse Treatment Days	M = 31.11 (sd = 15.45)	M = 39.71 (sd = 27.09)	M = 27.37 (sd = 7.10)	42.00
Outpatient Substance Abuse Admissions	M = 1.33 (sd = 1.16)	M = 2.33 (sd = 2.31)	M = 1.00 (sd = 0.00	0
Outpatient Substance Abuse Admission Days	M = 111.73 (*sd* = 142.23)	M = 166.50 (sd = 205.77)	M = 99.56 (sd = 138.17)	0

*$p < .05$

5.9.4 Homelessness Maintenance Sector

In addition to medical, psychiatric, and substance abuse service sectors, respondents reported their use of homelessness maintenance services. Sector services included emergency shelters, soup kitchens, and daytime drop-in-centers. For all variables, a 12-week measurement interval was used. Because only private, non-profit agencies provided these services in the study setting there will be no differentiation between VA and non-VA service use.

5.9.4.1 Homelessness Maintenance Sector Utilization

All study respondents (100.0%) reported using an emergency shelter in the last 12 weeks. Almost the entire sample (n = 210, 95.5%) reported using a soup kitchen including 91.8% (n = 101) of the veteran subgroup and 99.1% (n = 109) of the non-veteran subgroup. For daytime drop-in-centers, 200 (90.9%) of the total sample indicated they had visited this facility in the last month with this number being evenly split between the veteran (n = 100) and non-veteran (n = 100) subgroups.

Table 5.24 12 – Month Homelessness Maintenance Sector Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Use of Emergency Shelter			
Yes	220 (100.0%)	110 (100.0%)	110 (100.0%)
No	0 (0.0%)	0 (0.0%)	0 (0.0%)
Use of Soup Kitchen			
Yes	210 (95.5%)	101 (91.8%)	109 (99.1%)
No	10 (4.5%)	9 (8.2%)	1 (0.9%)

Table 5.24 - *Continued*

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Use of Daytime Drop-In-Center			
Yes	200 (90.9%)	100 (90.9%)	100 (90.9%)
No	20 (9.1%)	10 (9.1%)	10 (9.1%)

5.9.4.2 Frequency of Homelessness Maintenance Sector Utilization

Findings regarding frequency of emergency shelter utilization (see Table 5.25) indicated that the average respondent in the total sample spent 50.10 (sd = 33.57) days of the last 12 weeks residing in an emergency shelter. Veterans averaged 46.83 (sd = 33.13) days and non-veterans averaged 55.37(sd = 33.61). No statistically significant difference existed the veteran and non-veteran subgroups on this variable ($t(218) = -1.844$, $p = .067$). The total sample utilized soup kitchen services an average of 73.04 (sd = 58.93) times in the last 12 weeks. Veterans reported a higher average number of visits (M = 79.33, sd = 66.80) versus non-veterans (M = 66.75, sd = 49.34) but no statistically significant difference existed between these two groups ($t(218) = 1.588$, $p = .114$). The total sample mean for drop-in center utilization was 27.13 (sd = 26.28) visits in the last 12 weeks. A statistically significant difference ($t(218) = -3.059$, $p = .003$) was found between the study subgroups with non-veterans (M = 32.45, sd = 26.21) visiting drop-in centers significantly more often than veterans (M = 21.81, sd = 25.36).

Table 5.25 12 – Month Frequency of Homelessness Maintenance Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Emergency Shelter Utilization	M = 49.01 (sd = 31.17)	M = 45.15 (sd = 30.98)	M = 52.86 (sd = 31.04)
Soup Kitchen Utilization	M = 73.04 (sd = 58.93)	M = 79.33 (sd = 66.80)	M = 66.75 (sd = 49.35)
Drop-In-Center Utilization	M = 27.13 (sd = 26.28)	M = 21.81 (sd = 25.36)	M = 32.45* (sd = 26.21)

*$p < .05$

5.9.5 Homelessness Amelioration Sector

The final sector evaluated by this study included services intended to ameliorate homelessness. These were formal case management activities focused on housing, employment,

and public entitlements (see Table 5.26). An additional variable included contacts with outreach providers. For this service sector, the measurement interval was the previous 12 weeks and the interview asked veterans to discuss their use of both VA and non-VA services.

5.9.5.1 Homelessness Amelioration Sector Utilization

Just over one-fifth of all respondents utilized employment case management in the last 12 weeks (n = 50, 22.7%). This included 24 (21.8%) veterans and 26 (23.6%) non-veterans and no statistically significant association existed between veteran status and the use of employment case management ($\chi^2(1) = .104$, $p = .749$). Just over one-third (n = 83, 37.7%) of the total sample reported using this service in the last 12 weeks including 46 (41.8%) veterans and 37 (33.6%) non-veterans. As with employment case management, no significant association was found between veteran status and use of housing case management ($\chi^2(1) = 1.567$, $p = .211$). The final homelessness amelioration services included the use of benefits-specific case management and contact with outreach providers. Just over half of the total sample (n = 116, 52.7%) utilized benefits-oriented case management services in the last 12 weeks. A chi-square test of independence indicated that a significant association ($\chi^2(1) = 8.826$, $p = .003$) existed between veteran status and the use of case management services for benefits. Very few veteran (n = 8, 7.0%) or non-veteran (n = 3, 3.0%) respondents had contact with an outreach worker in the last 12 weeks. No statistically significant association existed between veteran status and whether an individual had been in contact with an outreach worker ($\chi^2(1) = 2.392$, $p = .122$).

Table 5.26 12 – Month Homelessness Amelioration Sector Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Use of Employment Case Management			
Yes	50 (22.7%)	24 (21.8%)	26 (23.6%)
No	160 (77.3%)	86 (78.2%)	84 (76.4%)
Use of Housing Case Management			
Yes	83 (37.7%)	46 (41.8%)	37 (33.6%)
No	127 (62.3%)	64 (58.2%)	73 (66.4%)
Use of Benefits Case Management			
Yes	116 (52.7%)	69 (62.7%)	47 (42.7%)*
No	104 (47.3%)	41 (37.3%)	63 (57.3%)

Table 5.26 - *Continued*

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Met with Outreach Worker			
Yes	11 (5.0%)	8 (7.0%)	3 (3.0%)
No	209 (95.0%)	102 (93.0%)	107 (97.0%)

*$p < .05$

Additional findings (see Table 5.27) indicated of the 24 veterans used some kind of employment case management, 8 (33.3%) utilized VA case management exclusively, 12 (50.0%) utilized non-VA case management exclusively, and 4 (16.6%) utilized both. Of the 46 (41.8%) veterans who used housing case management, 25 (54.3%) used VA services exclusively, 14 (30.4%) used non-VA case management exclusively, and 7 (15.2%) reported using both. Finally, of the 69 veterans who used benefits case management, 36 (52.2%) respondents used only VA benefits case management, 19 (27.5%) respondents used only non-VA benefits case management, and 14 (20.3%) respondents used both.

Table 5.27 12 – Month Homelessness Amelioration Sector Utilization – Veterans Only

Variable	Total Number Using Service	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Employment Case Management				
Yes	24 (21.8%)	8 (33.3%)	12 (50.0%)	4 (16.6%)
Utilized Housing Case Management				
Yes	46 (41.8%)	25 (54.3%)	14 (30.4%)	7 (15.2%)
Utilized Benefits Case Management				
Yes	69 (62.7%)	36 (52.2%)	19 (27.5%)	14 (20.3%)

5.9.5.2 Frequency of Homelessness Amelioration Sector Utilization

Respondents also reported their frequency of homelessness amelioration service utilization (see Table 5.28). The average total sample respondent utilized employment case management 3.34 (sd = 3.63) times in the last 12 weeks. The veteran subgroup mean was 3.25 (sd = 2.23) while the non-veteran subgroup mean was 3.42 (sd = 4.62). The total sample utilization rate for housing case management was 4.57 (sd = 4.56) visits in the last 12 weeks.

Non-veterans (m = 5.24, sd = 5.50) utilized this service more often than veterans (m = 4.02, sd = 3.61). For benefits case management, the total mean utilization rate in the last 12 weeks was 4.22 (sd = 4.49). Veterans utilized these services an average of 4.43 (sd = 4.80) times in the last 12 weeks while non-veterans utilized them an average of 3.91 (sd = 4.04) times. Comparing veterans and non-veteran utilization rates, no statistically significant differences existed between these groups for employment ($t(48) = -.167$, $p = .868$), housing case management ($t(81) = -1.217$, $p = .227$) or benefits case management ($t(114) = .610$, $p = .983$).

Table 5.28 12 – Month Frequency of Homelessness Amelioration Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Employment Case Management Utilization	M = 3.34 (sd = 3.63)	M = 3.25 (sd = 2.23)	M = 3.42 (sd = 4.62)
Housing Case Management Utilization	M = 4.57 (sd = 4.56)	M = 4.02 (sd = 3.61)	M = 5.24 (sd = 5.50)
Benefits Case Management Utilization	M = 4.22 (sd = 4.49)	M = 4.43 (sd = 4.80)	M = 3.91 (sd = 4.04)

*$p < .05$

Additional analyses evaluated whether veterans utilized VA case management exclusively, non-VA case management exclusively, or both (see Table 5.29). Findings indicated that for all types of case management, respondents who accessed both VA and non-VA employment (M = 6.25, sd = 3.96), housing (M = 9.00, sd = 4.08), and benefits (M = 5.64, sd = 2.90) case management utilized them at a higher rate veterans who used VA or non-VA services exclusively. Comparing respondents who used VA or non-VA case management services exclusively, utilization rates for all types of case management was highest for non-VA only service users. Consequently, the lowest rate of service utilization in the last 12 weeks for all types of case management was among those veterans only utilizing VA case management services.

Table 5.29 12 – Month Homelessness Amelioration Sector Utilization – Veterans Only

Variable	Frequency of Utilization	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Employment Case Management	M = 3.25 (sd = 2.23)	M = 2.12 (sd = 1.13)	M = 3.00 (sd = 3.00)	M = 6.25 (sd = 3.96)

Table 5.29 - *Continued*

Variable	Frequency of Utilization	VA Services Only	Non-VA Services Only	Both VA and Non-VA Services
Utilized Housing Case Management	M = 4.02 (sd = 3.61)	M = 2.56 (sd = 1.90)	M = 4.14 (sd = 3.63)	M = 9.00 (sd = 4.08)
Utilized Benefits Case Management	M = 4.43 (sd = 4.80)	M = 3.44 (sd = 2.38)	M = 5.42 (sd = 8.11)	M = 5.64 (sd = 2.90)

*$p < .05$

5.10 Service Sector Summary Variables

To test the study hypotheses identified earlier, summary variables for each service sector were constructed by aggregating relevant sector services. Table 5.30 identifies the specific service included for each summary variable including measurement interval and units of analysis.

Table 5.30 Summary Variable Construction

Summary Variable	Individual Service Types	Measurement Interval	Unit of Analysis
All Medical Service Utilization (ALLMEDDAY)	• Visits to Emergency room for medical problem • Days of inpatient admissions for medical problem • Visits to outpatient provider for medical problem	12 Months	Distinct ER or OP visits or days of inpatient admission
All Psychiatric Service Utilization (ALLPSYDAY)	• Visits to Emergency room for Psychiatric problem • Days of inpatient admissions for psychiatric problem • Visits to outpatient provider for psychiatric problem	12 Months	Distinct ER or OP visits or days of inpatient admission
All Substance Abuse Service Utilization (ALLSADAY)	• Visits to Emergency room for substance abuse problem • Days of inpatient admissions for substance abuse problem • Visits to outpatient provider for substance abuse problem	12 Months	Distinct ER or OP visits or days of inpatient admission
Homelessness Maintenance Service Utilization (MAINTNCE)	• Visits to Overnight Shelter • Visits to Soup Kitchen • Visits to Drop-in-Center	12 Weeks	Distinct visits to obtain service provided
Homelessness Amelioration Service Utilization (AMELIOR)	• Visits with Employment Case Manager • Visits with Housing Case Manager • Visits with Benefits case Manager	12 Weeks	Distinct interactions with case manager

5.10.1 Sector Utilization

Descriptive statistics identified the proportion of the total sample who utilized a specific sector or not and the frequency of service sector utilization (see Table 5.31). Similar statistics were provided for the veteran and non-veteran subgroups. For the medical sector summary variable, 159 (72.7%) of all 220 respondents visited an ER, stayed overnight in the hospital, or visited an outpatient provider for a medical problem in the last 12 months. This included significantly more veterans (n = 94, 85.5%) than non-veterans (n = 65, 59.1%; $\chi^2(1) = 19.076$, $p = .000$). Over one-third (n = 86, 39.1%) of the total sample utilized at least one psychiatric sector service including just over half of the veterans (n = 61 55.5%) and less than one-quarter of the non-veterans (n = 25, 22.7%). A statistically significant relationship existed between psychiatric sector service use and veteran status ($\chi^2(1) = 24.741$, $p = .000$). Substance abuse services were utilized by 25.0% (n = 55) of the total sample, 30.0% (n = 33) of the veteran subgroup, and 20.0% (n = 22) of the non-veteran subgroup. Although approaching significance, no significant association existed between substance abuse sector use and veteran status ($\chi^2(1) = 2.933$, $p = .060$).

Findings for the homelessness maintenance sector summary variable indicated 100.0% (n = 220) of the total sample utilized emergency shelter, soup kitchen, or drop-in-center services in the last 12 weeks. Just over two-thirds (n = 66.8%, n = 147) of the total sample reported using any homelessness ameliorations service including significantly ($\chi^2(1) = 7.401$, $p = .007$) more veterans (n = 83; 75.5%) than non-veterans (n = 64; 58.2%).

Table 5.31 Overall Sector Utilization

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Medical Sector Utilization			
Yes	159 (72.7%)	94 (85.5%)	65 (59.1%)*
No	61 (27.7%)	16 (14.5%)	45 (40.9%)
Psychiatric Sector Utilization			
Yes	86 (39.1%)	61 (55.5%)	25 (22.7%)*
No	134 (60.9%)	49 (44.5%)	85 (77.3%)

Table 5.31 - *Continued*

Variable	Total Sample (n = 220)	Veteran Subgroup (n = 110)	Non-Veteran Subgroup (n = 110)
Substance Abuse Sector Utilization (ALLSADAY)			
Yes	55 (25.0%)	33 (30.0%)	22 (20.0%)
No	165 (75.0%)	77 (70.0%)	88 (80.0%)
Homelessness Maintenance Sector Utilization (MAINTNCE)			
Yes	220 (100.0%)	110 (100.0%)	110 (100.0%)
No	0 (0.0%)	0 (0.0%)	0 (0.0%)
Homelessness Amelioration Sector Utilization (AMELIOR)			
Yes	147 (66.8%)	83 (75.5%)	64 (58.2%)*
No	73 (33.2%)	27 (24.5%)	46 (41.8%)

*$p < .05$

5.10.2 Frequency of Sector Utilization

Additional findings were frequency of service sector use for the total sample, veteran subgroup, and non-veteran subgroup for each summary variable (see Table 5.32). For the 159 (72.3%) respondents who reported any medical sector utilization, the mean number of utilizations was 11.45 (sd = 18.60). No statistically significant difference existed between veteran (m = 11.09, sd = 18.54) and non-veteran (m= 11.97, sd = 18.76) utilization rates for this sector ($t(157) = -.294$, $p = .769$). The total sample mean utilization rate for the psychiatric sector was 14.79 (sd = 19.97) in the last 12 months. Non-veterans (M = 15.92, sd = 19.44) reported a higher utilization rate than veterans (M = 14.33, sd = 19.45) but this difference was not statistically significant ($t(84) = -.334$, $p = .739$). For the substance abuse summary variable, the total sample (n = 55) indicated an average of 51.13 (sd = 71.14) utilizations in the last 12 months. Veterans (M = 62.91, sd = 88.34) used this service sector more often than non-veterans (M = 33.45, sd = 26.36) but these means were not found to be statistically significantly different (t (54) = 1.43, $p = .158$).

The final two service sectors aggregated homelessness maintenance and homelessness amelioration services. Noted previously, 100.0% of respondents (n = 220) utilized homelessness maintenance sector services reporting a mean of 151.27 (sd = 86.85) emergency shelter, soup kitchen, and drop-in-center utilizations in the last 12 weeks. Non-veterans (M = 154.57, sd = 79.25) reported a higher mean number of utilizations than non-veterans (M = 147.96, sd = 94.09)

but no statistically significantly difference existed between these two groups (t (54) = 1.43, p = .158). Of the 147 total sample respondents who used homelessness amelioration services, the mean number of utilizations in the last 12 weeks was 7.28 (sd = 7.46). The veteran subgroup mean (M = 7.23, sd = 7.00) was slightly less than the non-veteran mean (M = 7.34, sd = 8.08) with no statistically significant difference found between these two groups.

Table 5.32 Frequency of Overall Sector Utilization

Variable	Total Sample	Veteran Subgroup	Non-Veteran Subgroup
Medical Sector Utilization	M = 11.45 (sd = 18.60)	M = 11.09 (sd = 18.58)	M = 11.97 (sd = 18.76)
Psychiatric Sector Utilization	M = 14.79 (sd = 19.97)	M = 14.33 (sd = 19.45)	M = 15.92 (sd = 19.44)
Substance Abuse Sector Utilization	M = 51.13 (sd = 71.14)	M = 62.91 (sd = 88.34)	M = 33.45 (sd = 26.36)
Homelessness Maintenance Sector Utilization	M = 151.27 (sd = 86.85)	M = 147.96 (sd = 94.09)	M = 154.57 (sd = 79.25)
Homelessness Amelioration Sector Utilization	M = 7.28 (sd = 7.46)	M = 7.23 (sd = 7.00)	M = 7.34 (sd = 8.08)

5.11 Hypothesis Testing

5.11.1 Introduction to Hypothesis Testing

Six study hypotheses were proposed earlier:

1. Hardiness will predict the use of medical sector services by veterans who are homeless.
2. Hardiness will predict the use of psychiatric sector services by veterans who are homeless.
3. Hardiness will predict the use of substance abuse sector services by veterans who are homeless.
4. Hardiness will predict the use of homelessness maintenance sector services by veterans who are homeless.
5. Hardiness will predict the use of homelessness amelioration sector services by veterans who are homeless.

6. Veteran status will predict higher levels of hardiness among men who are homeless.

As noted previously, the concept of hardiness was represented by the DRS15-R and was included as a predictor variable in all regression analyses. The rationale used to select the remaining predictor variables included, 1) the variable had been established as a predictor of service utilization in the existing literature, or 2) the predictor variable was statistically correlated with the criterion variable and was theoretically linked to the criterion variable. During the analysis of each hypothesis, initial steps evaluated whether assumptions of regression were satisfied. Any remedial action taken to satisfy these assumptions is presented for each hypothesis and the results of the subsequent final analysis are presented. Because the Anderson Model provided the conceptual framework for the 5 service utilization hypotheses, figures will graphically illustrate how the predictor variables were conceptualized within this model.

5.11.2 Hypothesis Testing – Hardiness and Service Utilization

5.11.2.1 Hardiness and Medical Sector Utilization

The first regression analysis tested hypothesis 1, hardiness will predict the use of medical sector services by veterans who are homeless. Age (age), education (education), insurance-status (insurance), and length of current homelessness episode (Timehmls) were included as predictor variables based on prior research. Physical functioning (totalpcs) (r = -.373, p = .000) and use of homelessness amelioration services (AMELIOR) (r = .237, p = .000) were included because they were statistically correlated and theoretically linked with the use of medical services. Using the Anderson Model, predisposing factors included DRS15R, Age, Education, and timehmls. Enabling factors were insurance and AMELIOR while the need-based factor was totalpcs (see Figure 5.1).

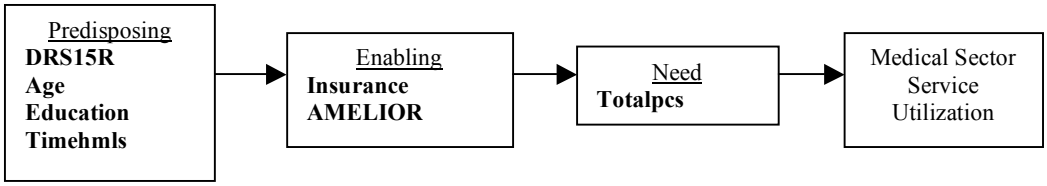

Figure 5.1 This figure illustrates how the variables predicting the use of medical sector services are conceptualized within the Behavioral Model of Health Services Use.

The multiple regression equation developed for hypothesis 1 is provided below:

$$Y(ALLMEDDAY) = \beta_0 + \beta_1(DRS15R) + \beta_2(Age) + \beta_3(Education) + \beta_4(Insurance) +$$

$$\beta_5(totalpcs) + \beta_6(TimeHmlss) + \beta_7(AMELIOR) + \varepsilon$$

Initially, assumptions of linear regression were assessed. Variance inflation factors (VIF) indicated a lack of multicollinearity. While the residual scatterplot indicated linearity among the residuals, it also pointed toward the presence of statistical outliers and heteroscedasticity (see Figure H.1). Based on the exploratory nature of the study and the desire to utilize a homogenous dataset, the determination was made to remove cases with a studentized residual greater than absolute value 2.00. Using this criterion, 5 cases were removed from the analysis. Reevaluating the residual scatterplot, the removal of these cases improved the fit of the model and heteroscedasticity was considered to be less of a concern (see Figure H.2).

Subsequent findings indicated the overall effect for the model was significant ($F(7,97) = 3.623$, $p = .002$) with a R^2 of .207 (see Figure 5.2). However, the beta value for DRS15R ($\beta = -.051$, $p = .592$) did not support hardiness as a significant predictor of the use of medical sector services. Of the remaining predictor variables, beta values for physical functioning ($\beta = -.172$, $p = .017$) and the use of homelessness amelioration services ($\beta = .269$, $p = .002$) were significant predictor variables. With all other things held constant, as physical functioning scores increase by 1.00, the use of medical sector services decreases by -.172. Additionally, with all other things held constant, as the use of homelessness amelioration services increases by 1.00, the use of medical sector services increases by .269.

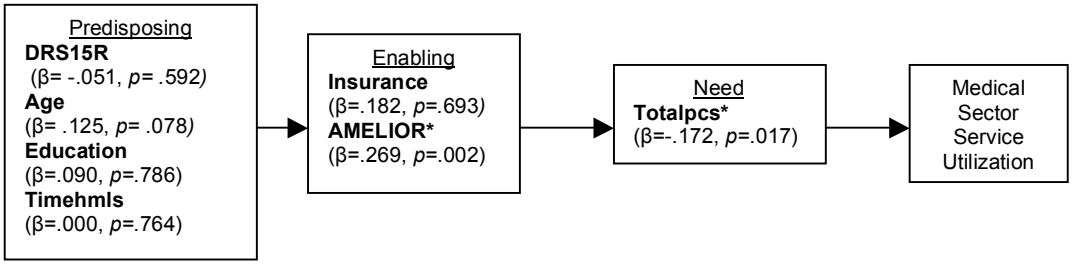

Figure 5.2 This figure illustrates the results of the final regression analysis assessing the ability of hardiness to predict the use of medical sector services *($p < .05$).

5.11.2.2 Hardiness and Psychiatric Sector Service Utilization

The second regression analysis tested hypothesis 2, hardiness (DRS15R) will predict the use of psychiatric service sector services (ALLPSYDAY) by veterans who are homeless. As with hypothesis 1, Hardiness (DRS15R) represented the predictor variable of interest. Additional variables identified through prior research were age (Age), education (Education), use of homelessness amelioration services (AMELIOR), and length of current homelessness episode (Timehmls). The use of homelessness amelioration services was also statistically correlated with the use of psychiatric services (r = .274, p = .000). Other statistically significantly correlated predictor variables included hardiness (r = -.137, p = .043) and mental health functioning (r = -.319, p = .000). Using the framework of the Anderson Model, predisposing factors included hardiness, age, education, and current time homeless. Enabling factors included insurance status and use of homelessness amelioration services. Mental health functioning represented a need-based factor (see Figure 5.3).

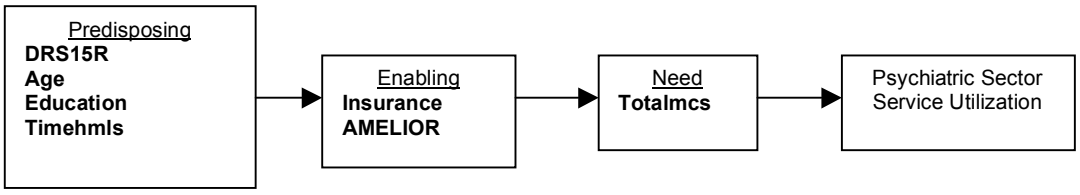

Figure 5.3 This illustrates how variables predicting the use of psychiatric sector services are conceptualized within the Behavioral Model of Health Services Use.

The multiple regression equation developed for hypothesis 2 is presented below:

$$Y(ALLPSYDAY) = \beta_0 + \beta_1(DRS15R) + \beta_2(Age) + \beta_3(Education) + \beta_4(timehmls) + \beta_5(Insurance) + \beta_6(AMELIOR) + \beta_7(totalmcs) + \varepsilon$$

Diagnostic tests for this model revealed violations of the assumptions of regression analysis similar to those discussed for hypothesis 1. Variance inflation factors indicated no multicollinearity and the residual scatterplot indicated linearity among the residuals (see Figure H.3). However, it was determined statistical outliers existed and the data appeared somewhat heteroscedastic. Evaluating Studentized residuals confirmed that 5 cases could be considered statistical outliers. Using the rationale discussed for hypothesis 1, these cases were removed in order to construct a homogenous data set for this exploratory assessment of hardiness and service utilization. Reevaluating the residual scatterplot indicated that removing these 5 cases inproved the fit of the model and lessened concerns regarding heteroscedasticity (see figure H.4).

Results of the final analysis indicated the overall effect of the model was significant ($F(7,97) = 3.507$, $p = .002$) with an R^2 of .202 (see Figure 5.4). However, the study hypothesis was not supported given the beta value of DRS15R ($\beta = -.048$, $p = .702$). Of the remaining predictor variables, insurance status ($\beta = 2.186$, $p = .001$) and mental health functioning ($\beta = -.110$, $p = .050$) were significant predictors of psychiatric sector service utilization. Given these findings, and if all other things are held constant, findings indicated that the longer a homeless veteran possesses health insurance, the more psychiatric sector services they will use. Similarly, these findings indicated as scores on the mental health functioning measure increased by 1.00, the use of psychiatric sector services decreases by .110.

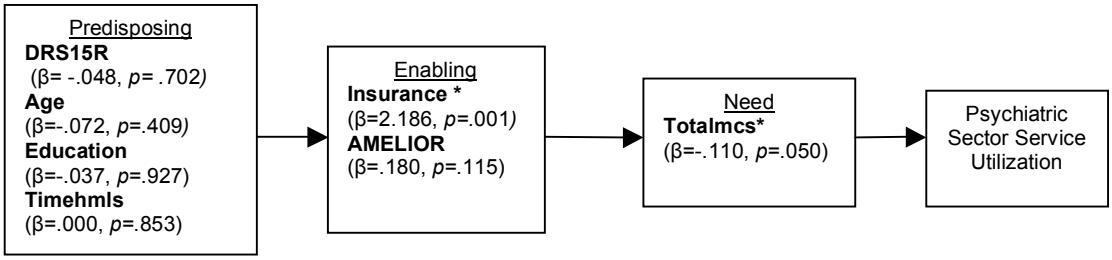

Figure 5.4 This figure illustrates the results of the final regression analysis assessing the ability of hardiness to predict the use of psychiatric services *($p < .05$).

5.11.2.3 Hardiness and Substance Abuse Sector Utilization

The third regression analysis tested hypothesis three, hardiness (DRS15R) will predict the use of substance abuse sector services (ALLSADAY). Predictor variables included the main variable of interest, hardiness, age (Age), use of amelioration sector services (AMELIOR), Insurance status (Insurance), current time homelessness (Timehmls), the drug abuse screening test (DAST), and the Michigan Alcohol Screening Test (MAST). As with the other regression models, Age, Education, Insurance, Timehmls, and AMELIOR were selected as because they predicted service use in the existing scientific literature. However, the use of amelioration services (r = .324, p = .000) was also statistically correlated with the use of substance abuse services. The Drug Abuse Screening Test (r = .324, p = .000) and Michigan Alcohol Screening Test (r = .148, p = .028) were included as predictor variables because they represented need variables and were statistically correlated with the use of substance abuse services. Within the framework of the Anderson Model, predisposing factors included hardiness, Age, and current time homeless. Enabling factors included Insurance and the use of amelioration services. Finally, need-based factors included the Drug Abuse Screening Test and the Michigan Alcohol Screening Test (see Figure 5.5).

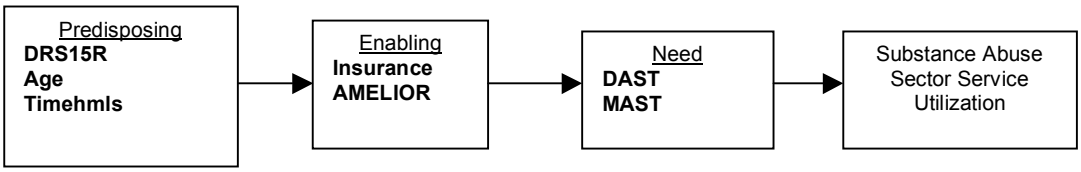

Figure 5.5 This figure illustrates how variables predicting the use of substance abuse sector services are conceptualized within the Behavioral Model of Health Services Use.

The regression equation developed for hypothesis 3 is presented below:

$$Y(ALLSADAY) = \beta_0 + \beta_1(DRS15R) + \beta_2(Age) + \beta_3(TimeHmlss) + \beta_4(Insurance) + \beta_5(AMELIOR) + \beta_6(DAST) + \beta_7(MAST) + \varepsilon$$

Diagnostic tests indicated the assumptions of linearity and no multicolinearity were satisfied. However, the residual scatter plot indicated the presence of statistical outliers and some heteroscedasticity (see figure H.5). Evaluating studentized residuals, 3 cases were identified as outliers and removed in order to utilize a more homogenous data set in the analysis. Reevaluating the residual scatter plot indicated that the removal of these cases did improve the fit of the model and lessen any heteroscedasticity (see figure H.6).

The final results indicated the overall effect of the model was significant ($F(7,99) = 3.784$, $p = .001$) with an $R^2 = .211$ (see Figure 5.6). The study hypothesis was not supported because the beta value for the main variable of interest, hardiness, was not significant ($\beta = .198$, $p = .718$). Among the remaining variables, the only significant predictor variable of use of substance abuse sector services was DAST ($\beta = .299$, $p = .006$). Evaluating the residual scatter plot, the removal of the statistical outliers did appear to improve the fit of the model. Given this result, and if all other things are held constant, an increase of 1.00 on the DAST predicts a .299 increase in the use of substance abuse sector services.

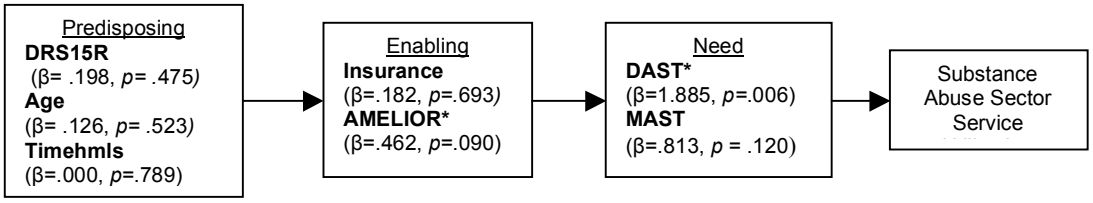

Figure 5.6 This figure illustrates the results of the final regression analysis assessing the ability of hardiness to predict the use of substance abuse services.

5.11.2.4 Hardiness and Homelessness Maintenance Sector Utilization

The fourth regression analysis tested hypothesis 5, hardiness (DRS15R) will predict the use of homelessness maintenance services (MAINTNCE). As with the other regression models, hardiness was included in the model as the main predictor of interest. Remaining variables were selected because they were statistically correlated to the use of homelessness maintenance services including the use of medical services (r = .171, p = .011), the use of amelioration services (r = .353, p = .000), and total time homeless (r = .153, p = .024). It is also notable that the use of amelioration services was also included because it was identified in the existing literature as a predictor of the use of maintenance services. Using the Anderson Model, predisposing factors included hardiness and the use of medical services. The use of amelioration services was conceptualized as an enabling factor and current time homeless and total time homeless were considered need-based factors (see Figure 5.7).

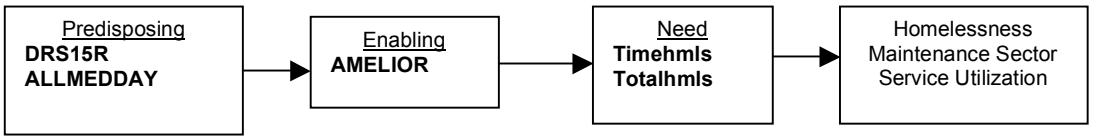

Figure 5.7 This figure illustrates how variables predicting the use of homelessness maintenance sector services are conceptualized within the Behavioral Model of Health Services Use.

The multiple regression equation developed for hypothesis 4 is presented below:

$$Y(\text{MAINTNCE}) = \beta_0 + \beta_1(\text{DRS15R}) + \beta_2(\text{ALLMEDDAY}) + \beta_3(\text{AMELIOR}) + \beta_4(\text{TIMEHMLS}) + \beta_5(\text{totalhmls}) + \varepsilon$$

Diagnostic tests indicated fundamental assumptions of multiple regression were satisfied (see Figure H.7). Therefore no modifications were made to the model or the data. Results indicated the overall effect of this model was not statistically significant ($F(5,109) = 1.737$, $p = .133$) with an R^2 of .133 (see Figure 5.8). The beta value for DRS15R ($\beta = -1.553$, $p = .254$) was not statistically significant indicating the study hypothesis was not supported. Additionally, beta values for predictor variables ALLMEDDAY ($\beta = .455$, $p = .379$), AMELIOR($\beta = 2.397$, $p = .076$), TIMEHMLS ($\beta = -.014$, $p = .309$), and totalhmls ($\beta = .010$, $p = .117$), were not statistically significant.

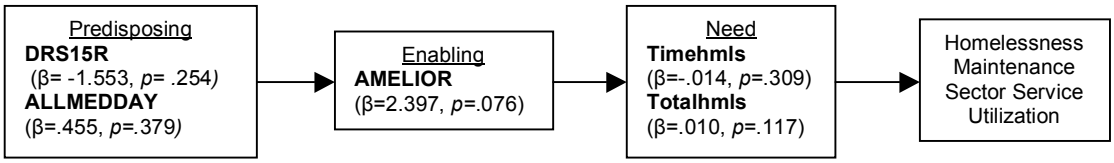

Figure 5.8 This figure illustrates the results of the final regression analysis assessing the ability of hardiness to predict the use of homelessness maintenance sector services *($p < .05$).

5.11.2.5 Hardiness and Homelessness Amelioration Sector Services

The fifth regression analysis tested hypothesis 4, hardiness (DRS15R) will predict the use of homelessness amelioration sector services (AMELIOR). Predictor variables included hardiness (DRS15R), Age (Age), Education (Education), shelter in the last 90 days (shltr90), use of medical sector services (ALLMEDDAY), and use of substance abuse sector services (ALLSADAY). As noted previously, Age and Education were selected as predictor variables based on prior research. DRS15R, the main variable of interest, was selected a priori but was also statistically correlated with the criterion variable ($r = -..142$, $p = .035$). The remaining variables were included in the model due to their statistical correlation with AMELIOR including ALLMEDDAY ($r = .237$, $p = .000$) and ALLSADAY ($r = .248$, $p = .000$). Using the Anderson Model, predisposing factors included DRS15R, Age, and Education. Enabling factors included ALLSADAY. Need-based factors included Shelter90 and ALLMEDDAY (see Figure 5.9).

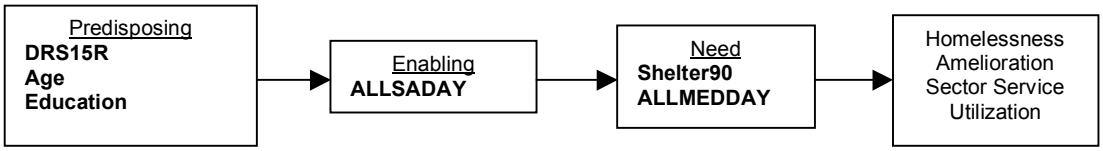

Figure 5.9 This figure illustrates how variables predicting the use of homelessness amelioration sector services are conceptualized within the Behavioral Model of Health Services Use.

The multiple regression equation developed for hypothesis 4 is presented below:.

$$Y(ALLSADAY) = \beta_0 + \beta_1(DRS15R) + \beta_2(Age) + \beta_3(TimeHmlss) + \beta_4(Totalmcs) +$$

$$\beta_5(shltr90) + \beta_6(ALLMEDAY) + \beta_7(ALLSADAY) + \varepsilon$$

Diagnostic tests for this model indicated the assumption of no multicollinearity was satisfied and a linear relationship did exist between the criterion and predictor variables. However, the plot indicated the presence of statistical outliers and heteroscedasticity among the residuals (see figure H.8). Evaluating studentized residuals, 5 cases were determined to be outliers. These cases were removed from the subsequent analysis in order to provide a homogenous data set. Reevaluating the residual scatterplot, the removal of these cases improved the fit of the model (see figure H.9).

The overall effect of the model was significant ($F(6,98) = 3.193$, $p = .007$) with an R^2 of .164. The beta value for hardiness ($\beta = -.098$, $p = .128$) did not support the hypothesis stating hardiness would predict homelessness amelioration sector service use (see Figure 5.10). Evaluating the residual scatterplot indicated that the overall fit of the model was fair. Of the remaining predictor variables, only ALLSADAY was a significant predictor of AMELIOR ($\beta = .015$, $p = .043$). This finding indicates if all other things are held constant, a 1.00 increase in the use of ALLSADAY will result in a .015 increase in the use of AMELIOR.

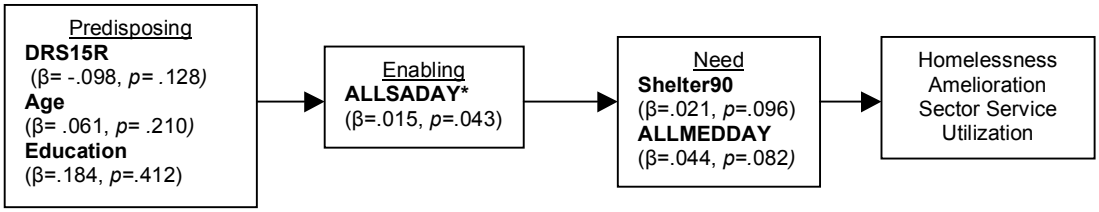

Figure 5.10 This figure illustrates the results of the final regression analysis assessing the ability of hardiness to predict the use of homelessness amelioration sector services *($p < .05$).

5.11.3 Hypothesis Testing - Military Service and Hardiness

The sixth regression analysis tested the sub-hypothesis proposing veteran status (Milservice) would predict higher levels of hardiness (DRS15R). In order to identify predictor variables for this analysis, exploratory correlation tests were used to determine variables statistically correlated to hardiness. The results indicated the highest level of education (r = .145, p= .031), VR-12 composite mental health functioning (r = .190, p=.005), and the Michigan Alcohol Screening Test (r = -.180, p = .007) were significantly correlated with hardiness including. Therefore, in addition to the military service predictor variable, these empirically-based predictor variables were included in the subsequent multiple regression model:

$$Y(DRS15R) = \beta_0 + \beta_1(MILSERVICE) + \beta_2(Education) + \beta_3(totalmcs) + \beta_4(MAST) + \varepsilon$$

Diagnostic tests indicated the assumptions of linearity, normality, homoscedasticity, and no multicollinearity were met for this regression analysis. The residual scatter plot indicated the presence of outliers which were confirmed after examining studentized residuals. In order to utilize a homogenous dataset, 12 cases were excluded from the subsequent final analysis.

Final results indicated the overall effect for the model was significant ($F(4,203) = 6.704$, p = .000) with an R^2 of .117. Assessing the residual scatter plot indicated the model was a good fit. However, the military service variable was not a significant predictor of hardiness (β = .529, p = .525) and the stated hypothesis was not upheld. Significant predictors of hardiness included years of education (β = .375, p = .049) and mental health functioning (β = .107, p = .000). Given these findings, when all other things are held constant, hardiness scores increased .375 points for

each additional year of education and .107 points for each additional point on the mental health functioning variable.

5.12 Summary of Statistical Findings

Given the extensive amount of findings in this chapter, a summary of relevant findings are presented. For demographic data, veterans were found to be significantly older, more educated, and more likely to have been married than non-veterans. Most respondents were either Caucasian or African American with African Americans being the most represented racial group among veterans. Caucasians were most represented among non-veterans. Significantly fewer veterans reported possessing health insurance than non-veterans but significantly more veterans reported possessing a valid government ID.

Findings regarding history of homelessness indicated no significant differences existed between the subgroups in length of current homelessness episode, times homeless in the last 3 years, and total length of time homeless. Veterans were significantly older the first time they experienced homelessness. The most commonly cited sleeping arrangements for the total sample were shelter and outdoors with veterans spending significantly more nights in a hotel or substance abuse recovery halfway house.

Over half of the total sample had been arrested for a felony and spent time incarcerated. On average, over four years of their life had been spent in jail or prison with no significant differences noted between veterans and non-veterans on any criminal history variables. Income and employment data indicated the average total sample respondent received 463.34 dollars in income in the last 30 days and 158 total sample respondents reporting they worked for pay including 75 veterans and 83 non-veterans.

All military branches were represented among the veteran subgroup with most serving in the Vietnam or Post-Vietnam eras. The average length of service was over four years and the majority of the respondents received an honorable discharge. Thirty-two respondents reported serving in a war zone with 23 of them receiving fire and 9 being wounded. Additional findings indicated 21 veterans received a non-service connected pension averaging 871.90 dollars per

month. Twenty reported a VA service connected medical disability with 2 reporting a co-occurring psychiatric disability. In the last 12 months, 84.5% of veterans stated they could have sought services VA services anytime.

Several standardized instruments were used during the course of this study to measure hardiness, physical and mental health functioning, and substance use. For all instruments, no significant differences were found between the veteran and non-veteran subgroups. However, total sample and subgroup scores for the PCS and MCS were significantly below the general population. Additionally, over two-thirds of respondents reported a lifetime history of alcoholism and one –half report a drug abuse problem in the last 12 months.

Other substance use findings indicated tobacco was the most commonly used and frequently used substance by the total sample. Alcohol was the next most commonly used substance followed by marijuana and cocaine. When evaluating the veteran and non-veteran subgroups, the only significant difference was the higher average frequency of marijuana use by the non-veteran group.

For this summary, only findings regarding sector summary variables are presented. Findings regarding specific sector services are previously discussed in section 5.9. Homelessness maintenance was the most commonly used sector followed by the medical, homelessness amelioration, psychiatric, and substance abuse sectors. Significantly more of veterans used medical, psychiatric, and homelessness amelioration services than non-veterans. In terms of frequency of service sector utilization, homelessness maintenance was the most frequently used followed by the substance abuse, psychiatric, medical, and homelessness amelioration sectors. Comparing the study subgroups, no significant differences existed between veteran and non-veterans and the frequency of utilization for any service sector.

Statistical testing did not support any of the stated study hypotheses. Simply, hardiness was not found to predict the use of assistance services by the veteran subgroup in any of the five service sectors. Veteran status was also not found to predict higher levels of hardiness.

CHAPTER 6

DISCUSSION AND IMPLICATIONS

6.1 Introduction to Discussion and Implications

For this study, hardiness represented a strengths-based construct used to evaluate the utilization of assistance services by veterans who are homeless. Framed within the Behavioral Model of Health Services Use (Anderson and Newman, 2005), hardiness was considered a predisposing, individual-level characteristic predicting the use of five service sectors. A sub-hypothesis proposed veteran status predicted higher levels of hardiness. Social Identity theory (Tajfel, 1981), identity theory (Grogean and Thomas, 2006), and Lazarus's (1999) transactional stress theory underpinned the conceptualization of this sub-hypothesis.

Primary data were collected from a random sample of 220 currently homeless males utilizing a low-demand emergency shelter in Fort Worth, Texas. Study subgroups included 110 veterans and 110 non-veterans. A structured interview gathered information relevant to the research. Data analysis included a descriptive assessment of the total study sample and subgroups. Additional analyses evaluated differences between study subgroups on key variables. Finally, research hypotheses were analyzed using multiple linear regression. This chapter summarized salient findings of the data analysis, compared current findings to prior research, assessed implications for social work practice, social policy, research, and identified the limitations of the study.

It is important to note descriptive statistics using the total sample of 220 males should be interpreted cautiously. The primary emphasis of the sampling strategy was to recruit a group of respondents to test the service utilization hypotheses and the sub-hypothesis evaluating veteran status and hardiness. It was not to obtain a larger sample considered representative of all adult homeless males residing in the study setting. Because the total sample contains a higher

proportion of veterans (50.0%) than identified by prior research, any total sample findings are non-representative of the study population.

6.2 Sample Characteristics

6.2.1 Demographics

Consistent with prior research (Robertson, 1987, Rosenheck and Koegel, 1993; Tessler, Rosenheck, and Gamache, 2002; O'Toole et al., 2003); significant differences existed between the subgroups in this research. Veterans were significantly older, more educated, and more likely to have been married. Veterans were also statistically significantly more likely to be African American versus Caucasian. While age differences have been discussed previously and attributed to the increased personal resources of veterans, the relative young average age of both study subgroups was notable. In terms of education, the military's preference for high school graduates (Laurence, 1984) and veteran educational benefits offered some explanation for the significantly higher level of education reported by veterans. Considering over half of all Vietnam-era veterans accessed GI Bill educational benefits (Rosenheck, Frisman and Chung, 1994) and this group comprised almost half of all veterans in this study, educational benefits unavailable to civilians may have contributed to this finding.

Previous research provided insight into the racial composition differences identified between the subgroups used in this study. Alluding to the association between poverty and homelessness, prior research discussed that racial differences between veterans and non-veterans "largely reflect differences between these subgroups in the general population of low income men" (Rosenheck and Koegel, 1993, pp.862). While this may be true, the overrepresentation of African Americans among both of these subgroups is disconcerting. In 2007, 17.3% of active-duty personnel in the U.S. military were African American while they comprised 55.5% of the homeless veteran subgroup recruited for this study (United States Department of Defense – African-American, n.d.). Given that 13.0% of the civilian, non-institutionalized U.S. population is African-American (United States Census Bureau, 2003), their

continued overrepresentation reinforces earlier concerns homelessness among African-Americans (Burt, 1993, Symposium).

Other findings identified statistically significantly more veterans than non-veterans possessed no health insurance in the last year. However, findings for both study subgroups also exceeded those in prior research (O'Toole et al., 2003). Considering the disproportionately high rates of medical, mental health, and substance abuse problems reported by men who are homeless (Harpaz-Rotem, Rosenheck, and Desai, 2006; Page, 2007; Culhane, Metraux, and Hadley, 2002; Padgett, Struening, and Andrews, 1990; Schanzer, Dominguez, Shrout, and Caton, 2007), this finding does not bode well for their overall health and ability to escape homelessness. With no health insurance it appears the primary health care options for many of the non-veteran respondents consists of costly crisis-oriented emergency care. Outpatient care, which indicates an established relationship with a medical provider and can include preventive care was used less often.

For veterans, it appeared the situation was less critical as 84.5% reported they could have accessed VA services in the last year. For all medical services, the proportion of veterans accessing care was greater than for non-veterans. In terms of outpatient services, the difference was considerable and statistically significant. However, it must be acknowledged that access to VA services and benefits varies according to the type of discharge, length of service, presence of a service-connected disability, income level, and the availability of resources (VA, n.d.). While a large proportion of veterans reported access VA services, variation in the breadth of services available likely exists.

Another notable finding included the large numbers of veterans and non-veterans who possessed no valid, government issued I.D. Because identification is often required to apply for employment, housing, benefits, establish accounts with utility providers, and open bank accounts, lacking critical documentation represents a considerable barrier to services and resources. Factors contributing to this finding could include the high rate of theft experienced by

people who are homeless (Lee and Schreck, 2005). Veterans and non-veterans residing in the emergency shelter have few secure places to store personal belongings. The emergency shelter does rent lockers and other types of storage but for some this may be cost prohibitive. Carrying their possessions throughout the day, many respondents reported being forced to leave belongings unattended while eating or using drop-in center facilities. While agencies attempt to monitor these individuals' belongings, thefts were reported to occur.

For veterans seeking to access VA services, lacking necessary ID is a considerable barrier. Individuals attempting to enter the VA Supportive Housing Program (VASH) are expected to provide identification, i.e., drivers license or other picture identification, birth certificate, social security card, verification of income, copy of marriage license or divorce decree (if applicable), verification of homelessness status, verification of disability, and a copy of the veteran's DD214 (A.G. Harper, personal communication, n.d.). Because many veterans enter VASH from the VA Healthcare for Homeless Veteran or Domiciliary Care for Homeless Veterans programs it is likely the veteran had assistance from case managers obtaining these documents. At the least, these programs provide respite from some of the challenges inherent in living in an emergency shelter. For veterans who continue to live in the emergency shelter, the day-to-day complexities of living homeless makes obtaining and retaining identification and other critical documentation a difficult task.

6.2.2 Homelessness and Residential History

No significant differences existed between the veteran and non-veteran subgroup for length of current episode, number of times homeless in the last three years, and lifetime experience of homelessness. However, a substantial number of veterans and non-veterans reported being continuously homeless for over one year, criterion used to establish chronic homelessness (U.S. Department of Health and Human Services, 2003). Unfortunately, this study did not establish physical or mental health disability status and whether the individual was accompanied or not (U.S. Department of Health and Human Services). Therefore, it was

impossible to determine the proportion of veterans and non-veterans who could be considered chronically homeless. However, the existence of so many veteran and non-veteran males reporting indicates that escaping homelessness a difficult proposition. Compared with prior research, the overall percentage of veterans and non-veterans in this study who reported being homeless for more than 12 months was lower (O'Toole et al., 2003).

Additional findings indicated veteran and non-veteran subgroups struggle to obtain independent and stable housing. The total sample reported it had been an average of just over 31 months since their last resided in their own apartment, room, or house for at least 30 days. In the last 12-weeks the average total sample respondent had resided in 2.63 locations. Similar patterns emerged for the veteran and non-veteran subgroups when they discussed their sleeping arrangement in the last 12-weeks. *Shelter* was the most frequently cited while *outdoors* was the second most frequently cited. This represents a disturbing finding as the prospects of escaping homelessness appear limited when people who are homeless largely sleep in emergency shelters or outdoors. As noted by Barrow and Zimmer (1998), shelters generally focus on meeting basic needs and often lack crucial supportive services to assist individuals in escaping homelessness. For those sleeping outdoors, access to needed services and entitlements could be similarly impaired.

A finding speaking to the plight of the veteran and non-veteran respondents was the low utilization of transitional housing services. Of all possible sleeping arrangements, transitional housing was least cited by either subgroup. The underutilization of this resource is disturbing given the explicit focus of promoting self-sufficiency through housing and supportive services (Barrow and Zimmer, 1998). It is also an avenue through which many homeless individuals gain access to permanent housing (Tsemberis, Gulcur, and Nakae, 2004). For the veteran subgroup, this seemed to be an especially salient finding given the housing programs developed by the VA. Understanding it is often beyond the means of homeless veterans to independently secure housing, the Grant and Per Diem transitional housing program was developed (National

Alliance to End Homelessness, 2007). With a Grant and Per Diem program physically situated next to the study site, the low level of contact between the veteran subgroup and these service providers was troubling. However, it is possible that issues of eligibility, limited program resources, or the structure of the program – factors not measured during this study - could have played a role in the ability or willingness of veterans to access this program. Whatever the factors limiting access of the study respondents to these resources, it does appear that emergency shelters like the one used on this study do represent a *shelter of last resort.*

6.2.3 Criminal History

Over 70.0% of veterans and non-veterans reported an adult felony conviction. A higher percentage than reported in prior research (Rosenheck and Koegel, 1993; O'Toole et al., 2003). Approximately 95.0% percent of each group reported a history of incarceration in jail or prison. These rates exceeded those reported by Metraux and Culhane (2004) and Rosenheck and Koegel (1993). Considering more recent interactions with the criminal justice system, 15.0% of veterans and 20.0% of non-veterans reported being arrested and charged with a crime in the last 90 days. When compared with those provided by O'Toole at al. (2003), recent rates of arrest appeared to be consistent with prior research.

The recursive relationship between incarceration and homelessness has been identified previously (Metraux and Culhane, 2004). In the midst of other mediating factors, "the crossing over from incarceration to homelessness and visa-versa, threatens to transform spells of incarceration or homelessness into more long term patterns of social exclusion" (Metraux and Culhane, pp. 142). While no statistical correlation was found between the amount of time incarcerated and homelessness, barriers to escaping homelessness posed by felony conviction and incarceration histories are considerable. Many employers screen applicants based on criminal history and while different crimes are weighted differently, the potential for limited employment opportunities are very real. Similarly, private landlords and housing programs

evaluate potential tenants based on criminal history and may not accept individuals with extensive criminal histories.

6.2.4 Income and Employment History

Veteran and non-veteran subgroups were not significantly different regarding income in the last 30 days, the proportion of respondents working or not, or the number of hours worked per week. What was concluded from these findings was that the low average income reported by veterans and non-veterans represented a considerable barrier to escaping homelessness. For both groups, the highest income reported was two thousand dollars per month but this included only 2 veterans and 1 non-veteran. Alternately, approximately 13.0% of veterans and 10.0%of non-veterans reported no income at all. Among the remaining respondents, just over 75.0% of both subgroups reported a monthly income of 1 – 1,000 dollars. In the absence of any other obstacles, the meager income reported by veterans and non-veterans pose significant challenges to escaping homelessness. As noted by the National Low Income Housing Coalition (2008), an annual income of just over thirty-thousand dollars is required to afford a one-bedroom apartment priced at Fair Market Rent (FMR). Given these conditions, the ability for a homeless male participating in this study – veteran or not - to independently secure housing is very limited.

6.2.5 History of Military Service

Consistent with prior research, all major military branches were represented within the veteran study subsample. However, unlike Robertson (1987) and Applewhite (1997), the Marine Corps was the second most represented branch versus the Navy. The average length of active duty for the veteran subgroup ranged from 46 days to 20 years with a mean of just over four years. One-third of homeless veterans served in a war zone, a finding consistent with previous research (Burt, Aron, Douglas, Valente, Lee, and Iwen, 1999). The Vietnam War zone was most cited followed by Persian Gulf War zone - which included veterans of ongoing operations in Iraq and Afghanistan. Of those who served in a war zone, 23 received hostile or friendly fire with 9

being wounded. Similar with other study findings (National Coalition for Homeless Veterans, 2007; Kushel, Vittinghoff, and Haas, 2001; Gamache, Rosenheck, and Tessler, 2000); the vast majority of the veterans *approached* to participate in this study received an other than dishonorable discharge. While dishonorably discharged veterans were excluded from the study, this only included 5 individuals throughout the entire sampling process.

Other salient military history findings included the number of veteran's receiving disability or pension benefits from the VA. Compared to Burt et al., (1999), three times as many veterans in this study reported receiving disability or non-service connected pension benefits. Additionally, a clear majority of the veterans (84.5%) reported they could have accessed VA services at any time in the last year. Ultimately however, the veteran subgroup recruited for this research appeared similar to those utilized in other studies. It also appeared that when compared to non-veterans who are homeless, veterans enjoy some distinct advantages. Access to VA services allows homeless veterans to enter a broad continuum of care unavailable to non-veteran men who are homeless. While eligibility is contingent on a number of factors and perceptions regarding VA quality of care differed among respondents and actual use of VA services was mixed, anecdotal information suggested homeless veterans are aware of resource advantages.

A final finding of note, which could not be specifically compared to any prior research, was the overwhelming number of enlisted men and non-commissioned officers among the veteran sample recruited for this study. For all veterans, only one (.9%) reported he held the rank of commissioned officer at a time of discharge. While it was difficult to interpret this finding, social selection perspectives of military recruitment (Janowitz, 1975) and veteran homelessness (Tessler, Rosenehck, and Gamache, 2003) proved useful. Noted in Chapter 1, concerns regarding the all-volunteer force included that it would recruit enlisted men from socially marginalized and economically vulnerable groups. Research regarding the propensity to enlist supported this concern as factors including job/career/education, social status, and money

influenced the decision to enlist (Padilla and Laner, 2002). In terms of veteran homelessness, the social and economic vulnerabilities which may have prompted individuals to enlist have also been linked to eventual entry into homelessness after discharge (Tessler, Rosenheck, and Gamache, 2003, pp. 519).

6.2.6 Hardiness, Health, and Substance Use

Most prior research utilizing the Behavioral Model of Health Services Use assessed for the incidence and severity of medical, mental health, and substance abuse problems (Wenzel et al., 1995; Pollio et al., 2003; Gelberg, Anderson, and Leake, 2000; Frueh, Hamner, Elhai, and Knapp, 2004; Gamache, Rosenehck, and Tessler, 2000). While this research explicitly utilized a strengths-based perspective, similar factors were included and served as control variables during hypothesis testing. The Veterans Rand – 12 Health Survey (VR-12) assessed respondents physical and mental health functioning while the Michigan Alcoholism Screening Test (MAST), the Drug Abuse Screening Test (DAST), and measures of consumption developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) measured substance abuse and consumption.

No statistically significant differences existed between veterans and non-veterans for hardiness (DRS15-R). When compared with a normed population mean obtained from West Point Cadets, mean DRS-15R scores reported by homeless veterans and non-veterans were not statistically significantly different. Revisiting the conceptualization of hardiness proposed by Kobasa (1979), this indicated homeless men in this study can be considered just as committed to their personal goals, experience a similar sense of control over their environment, and perceive difficult circumstances as opportunities as this arguably high achieving comparison group. While it is important to acknowledge issues regarding conceptualization and measurement of hardiness previously discussed in Chapter 2, this was an interesting finding given the tendency to stigmatize men who are homeless (Kyle, 2005).

No statistically significant differences existed between the veteran and non-veteran subgroups for the physical health (PCS) and mental health (MCS) functioning scores provided by the VR-12. When veteran and non-veteran PCS and MCS scores were compared with the population standard, mean scores for both subgroups on both subscales were found to be statistically significantly lower. For both groups, almost three-quarters of veterans and just over 60.0% of non-veterans reported a below average PCS score. Almost three-quarters of veterans and non-veterans reported an MCS score below the U.S. population standard. While this measure did not assess the presence of specific medical or mental health conditions or seek to make any diagnoses, findings confirmed prior research indicating veterans and non-veterans who are homeless do posses considerable physical and mental health limitations.

Also consistent with prior research (Robertson, 1987; Rosenheck and Koegel, 1993; O'Toole et al., 2003), three-quarters of veterans and non-veterans indicated serious alcohol-related problems. Just over half of both groups reported serious drug-related problems. Patterns of use for tobacco, alcohol, and cocaine were comparable between veterans and non-veterans and with prior research (O'Toole et al., 1999). The proportion of veterans and non-veterans using tobacco was over 3 times that of the general population while the proportion of all respondents using any illicit drug was over four times that of the general population (United States Department of Health and Human Services (DHHS), 2007). In terms of any alcohol use, the findings for this study comparable with those from the general population (DHHS).

The ramifications of these findings for the health and well-being of the veteran and non-veteran study groups cannot be underestimated. The negative health effects of tobacco, problem drinking, and cocaine abuse are considerable, whether an individual is homeless or not (Sturm, 2002; De Alba, Samet, Saitz, 2004). Considering homelessness itself often comes with an array of negative health effects and because co-occurring mental health and medical problems are prevalent among the homeless (Hwang, 2001), it is possible that these problems interact to create significant ongoing challenges to homeless people and service providers.

Additionally, active substance use can have implications for the ability to obtain supportive services, maintain employment, and obtain housing (Padget, Struening, and Andrews, 1990; Pollio et al., 2003; Lemming and Calsyn, 2004).

Un-remediated substance use may also preclude frequent contact with the criminal justice system. While it is obvious the possession and use of marijuana and cocaine are by their nature illegal, the legal use of alcohol by people who are homeless is also a precarious proposition. None of the agencies located in the study setting permit the consumption of alcohol on their premises. With few other options, homeless individuals are likely to consume substances in public placing them at risk for citation or arrest. Many agencies also actively test for the use of alcohol or drugs and make services contingent on abstinence. Whether in terms of transitional housing, emergency shelter, or other supportive services, the continued use of some substances can equate to continued homelessness.

6.3 Service Utilization

While the collection of service utilization data assisted in developing sector summary variables for hypothesis testing, this data also provided insight regarding patterns of service use for the veteran and non-veteran subgroups. Additionally, by synthesizing these findings with those regarding respondent characteristics, physical and mental health functioning, and substance use, it was also possible to make an assessment of whether service utilization seemed appropriate given the need. However, any assessment must acknowledge the primary purpose of this study, the limitations of the data, and therefore should be considered tentative.

6.3.1 Homelessness Maintenance Services

Of the five service sectors assessed by this study, homelessness maintenance was most commonly and frequently used by veterans and non-veterans. Considering that services in this sector met basic needs for shelter, food, and access to basic facilities, this finding was expected. No significant differences existed between subgroups with at least ninety-percent of both groups using each of the services in the last 12 weeks. Evaluating frequency of service

use, No significant differences also existed in emergency shelter and soup kitchen utilization in the last 12 weeks. However, non-veterans visited the drop-in center statistically significantly more often than non-veterans.

It is difficult to understand why veterans frequented the drop-in center less often. Located approximately 250 yards from the emergency shelter, the facility was within walking distance and because levels of physical functioning did not differ significantly between subgroups, it did not appear veterans had more difficulty traveling to the facility. Additionally, because the drop-in center did not require unique documentation to enter the facility it did not appear non-veterans were advantaged in gaining access to the facility. Finally, because no significant differences existed between veterans and non-veterans in the proportion of respondents working and number of hours worked per week, it did not appear veterans were not accessing the facility because they are working.

Acknowledging these factors, other factors may account for this difference in service utilization. Ultimately, this facility was designed to provide day-time respite shelter, access to showers, laundry facilities, telephones, an address, and some case management. It is possible many veterans did not perceive the need for these services as frequently as non-veterans. It should also be considered that the drop-in center was monitored by a uniformed police officer and during times of weather extremes the environment could be perceived as chaotic. While this study did not measure respondent's sensitivity to these factors, previous research indicated these factors influence the use of services (Fountain, Howes, Marsden, and Strang, 2002; Kennedy and Fitzpatrick, 2001).

6.3.2 Medical Services

Medical services were the second most commonly used sector by both study subgroups. Considering the low physical health functioning scores of this sample, rigors of living homeless, and high rates of reported chronic medical conditions among people who are homeless (Wenzel et al., 1995) this finding was understandable. No differences were noted

between veterans and non-veterans with just over half using medical emergency room services and just less than one-third being admitted overnight to the hospital in the last year. A statistically significant difference existed in the use of outpatient services with 69.1% of veterans and 40.9% of non-veterans reporting use in the last year. Compared with prior research, rates for this sample are greater in terms emergency room use, inpatient hospitalizations, and outpatient visits (Kushel, Vittinghoff, and Haas, 2001). No differences in the frequency of service use were identified between veterans and non-veterans in terms of any specific service.

Given a clear majority of veterans reported access to VA services in the last year, medical service use for this group was delineated in terms of whether services were obtained through the VA or non-VA providers. Prior research has indicated that when using medical services, homeless veterans tend to rely on the VA for those services (Wenzel et al., 1995; Rosenheck and Seibyl, 1998). For this sample, when seeking emergency room care, almost twice as many veterans utilized non-VA services than VA services. However, with the VA emergency room located approximately 35 miles from the study setting; this pattern of service appeared understandable. Use of non-VA inpatient hospital services was also more prominent but the difference less pronounced than for ER visits. The largest difference in medical service use was in the use of outpatient medical care with 70.0% of veterans seeking outpatient care from the VA while a much smaller proportion sought non-VA care. As with emergency room utilization, the geographic proximity of services may have influenced service use. Noted previously, VA outpatient medical care is offered at a VA Compensated Work Therapy (CWT) program site located approximately one-quarter mile from the study setting. A VA outpatient clinic is also located several miles away but accessible via public transportation or official VA vehicle. Given the proximity of these VA resources, the heavy reliance on VA outpatient providers is understandable.

6.3.3 Homelessness Amelioration Services

Acknowledging challenges faced by veteran and non-veteran homeless males, case management services offered within the homelessness amelioration sector are considered especially relevant in assisting them to escape homelessness. Despite that this need, utilization rates of the homelessness amelioration sector by both study subgroups appeared low. Less than 25.0% of veterans or non-veterans sought any employment case management services. Only 41.8% of veterans and 33.6% of non-veterans reported seeking housing case management services. Benefits case management was the most commonly reported but overall utilization rates were still marginal with just over 60.0% of veterans and 40.0% of non-veterans using this service in the last 12 weeks.

Veteran subgroup's use of amelioration services was also evaluated to determine if a preference for VA or non-VA service providers existed. Findings indicated that while minimally using these services, no clear preference for VA or non-VA providers were identified. Given the VA programs and resources targeted towards assisting homeless veterans (Burt et al., 1999), and the availability of these services in the study setting, findings indicated VA programs are struggling to engage this subpopulation of homeless veterans.

6.3.4 Psychiatric Services

This study assessed the use of psychiatric services by the veteran and non-veteran subgroups. For all services, 56.0% of veterans and 23.0% of non-veterans reported utilizing an emergency room, being admitted to a hospital, or receiving outpatient treatment for a psychiatric problem in the last year. Outpatient care was most commonly used service by either group followed by inpatient care and emergency room services. Significantly fewer non-veterans used any of the psychiatric services than veterans. Evaluating the use of VA and non-VA services, findings consistent with those regarding the medical sector indicated that veterans are more likely to seek care at non-VA emergency rooms and inpatient facilities while more veterans utilize the VA for outpatient psychiatric care.

Compared with domiciled males, it does appear that psychiatric services are being over-utilized by both subgroups but noticeably more so by non-veterans. Revisiting the mental health functioning scores discussed previously, no significant difference existed between veterans and non-veterans but both subgroup scores were significantly lower than the normed population mean of 50.00. Almost three-quarters of the total sample including 81 veterans and 80 non-veterans scored lower than this mean. While it is impossible to definitively state how many of these respondents should have been accessing psychiatric care because diagnostic instruments were not utilized, their overall level of mental health functioning indicated more respondents could benefit from assistance services.

6.3.5 Substance Abuse Services

The final sector assessed for this study measured the use of substance abuse services in the last year. Overall sector utilization rates appeared low for both the veteran and non-veteran subgroups given the high level of need among people who are homeless (Wenzel et al., 1995; Burt, 1999; Kushel, Vittinghoff, and Haas, 2001). Inpatient substance abuse treatment was the most commonly used sector service followed by outpatient treatment and the use of emergency room services. Of the veterans using this sector, all respondents seeking emergency room services utilized a VA emergency room. Conversely, at least 70.0% of all individuals seeking inpatient and outpatient treatment utilized non-VA providers. Compared with prior research, these findings are inconsistent with Wenzel et al. (1995) who identified that a greater proportion of veterans seek any substance abuse services from the VA.

Given these findings, homeless veterans and non-veterans did not appear to be accessing the substance abuse treatment they need. Just over three-quarters of veterans and non-veterans indicated a history of alcoholism and over one-half reported a history of drug problems in the last 12 months. Evaluating the data further, 10 veterans and 32 non-veterans were determined to have a history of alcoholism and to be actively using alcohol while similar analysis indicated that 51 veterans and 60 non-veterans were determined to have a history of

drug-related problems and to be actively using a substance. However, none of these individuals had received any substance abuse treatment in the last 12 months. While it would be going far beyond the scope of these findings to even assert that these individuals need or should have treatment, it appears that as with the other sectors discussed, service utilization is not consistent with need.

Thinking about this finding further, a preliminary assessment is that veteran and non-veteran participants in this study may be utilizing medical and psychiatric services to treat substance abuse problems. Revisiting MAST and DAST scores, high proportions of both subgroups reported a history of alcohol-related problems in their lifetime and drug-related problems in the last 12 months. However, this is a very tentative assessment because no diagnostic instruments were used to assess the true frequency of mental health and substance abuse diagnoses. At the least, this appears to be a finding which should be explored further with additional research.

6.4 Hypothesis Testing

The primary purpose of this study determined whether hardiness statistically predicted the use of services by veterans who are homeless. A secondary sub-hypothesis evaluated if veteran status predicted higher levels of hardiness. For service utilization, five hypotheses were developed utilizing service sectors identified by Pollio et al. (2003) including medical, psychiatric, substance abuse, homelessness maintenance, and homelessness amelioration services. Consistent with prior research (Wenzel et al., 1995; Gamache, Rosenheck, and Tessler, 2000; Elhai, Reeves, and Frueh, 2004; McCarthy et al., 2006), the conceptual model used for this study was grounded in the Behavioral Model of Health Services Use developed by Aday and Anderson (1974). However, it also incorporated recommendations proposed by Gelberg, Anderson, and Leake (2000) when studying vulnerable populations. Using this model, the likelihood and quantity of service use was conceptualized as a combination of predisposing, enabling, and need-based factors (Elhai, Reeves, and Frueh, 2004). Predisposing factors were

considered to exist before the onset of the need for a service while enabling factors were the resources assisting a person in obtaining and using services. Need-based factors included variables directly associated with the need to seek services.

All hypotheses were tested using multiple regression. For the five service utilization hypotheses, service sector summary variables served as criterion variables. The DRS15-R measured the concept of hardiness and served as a predictor variable in all 5 service utilization regression models. Hardiness was considered a predisposing factor because it is thought to develop early in life and be relatively stable over time (Bartone, 2006; Bartone, 1999; Khoshaba and Maddi (1999). Other predictor variables were identified using prior research and/or if they were statistically correlated and theoretically linked to the use of a service sector. These variables were identified previously in Chapter 4 whether they represented predisposing, enabling, or need-based factors.

For the sub-hypothesis evaluating veteran status as predictor of hardiness among homeless men, aggregate hardiness (DRS15-R) scores served as the criterion variable. Predictor variables included factors statistically correlated and theoretically linked with hardiness. However, because the primary focus of this study was on testing the ability of hardiness to predict the use of services this sub-hypothesis was considered secondary to the study and very exploratory.

6.4.1 Hardiness as a Predictor of Service Use

Results indicated hardiness was not a significant predictor of service use for any of the five service sectors. In fact, hardiness did not approach statistical significance ($p < .05$) except for the homelessness amelioration service sector model ($\beta = -.098$, $p = .128$). For the other hypotheses, alpha scores were much more elevated including medical ($\beta = -.051$, $p = .592$), psychiatric ($\beta = -.048$, $p = .702$), substance abuse ($\beta = .198$, $p = .718$), and homelessness maintenance ($\beta = -1.553$, $p = .254$) sectors. Ultimately, it appears the use of homelessness

assistance services assessed during this study is not predicted by whether an individual is hardy or not.

This was a positive finding in terms of service access and the equity of service provision. As noted by Anderson and Newman (2005), “equitable distribution, rather than implying that all individuals receive the same amount of health services regardless of their characteristics, suggests that some characteristics should become important and others less so as equity is achieved” (pp. 21). Therefore, while predisposing factors including age and gender are generally associated with physical need and appropriately predict the use of services (Anderson and Newman), the ability of hardiness to predict the use of services would indicate a service system inequity. More specifically, it would suggest the more or less an individual possess the qualities of commitment, control, and challenge, the more of less services they would use. Ultimately, it is also important to note while hardiness did not significantly predict the use of services; no predisposing factors including age, education, and length of current episode of homelessness, did either. This finding confirmed the inconsistent ability of predisposing factors to predict service use (Elhai, Reeves, and Frueh, 2004; Gamache, Rosenheck, and Tessler, 2000; McCarthy et al., 2007; Wenzel et al., 1995).

Results for other predictor variables included in the regression models varied by service sector. For medical, psychiatric, and substance abuse sectors, utilization was predicted by variables conceptualized as enabling or need-based factors. Homelessness amelioration services were predicted by one enabling factor only. For homelessness maintenance sector utilization, the use of homelessness amelioration services approached statistical significance as a predictor but no other factors significantly predicted sector utilization. Having established the limited ability of predisposing factors – including hardiness – to predict the use of homelessness assistance services, enabling and need-based factors will be discussed below.

6.4.2 Enabling Factors as Predictors of Service Use

Enabling factors were found to significantly predict the use of services and these findings are largely consistent with the results of prior research (citations???). When conceptualized as a enabling factor, amelioration sector service utilization predicted increased use of medical and substance abuse sector services. It also approached significance as a predictor of homelessness maintenance services. Homelessness amelioration services, on the other hand, were predicted by the use of substance abuse services, which was conceptualized as an enabling variable in that specific regression model. These findings suggested as homeless veterans use certain service sectors, other needs are identified and access to care facilitated. As noted by Pollio et al. (2003), this finding reinforces the need for service providers to make a broad assessment of veteran service needs and facilitate access to appropriate services.

It is important to note while the substance abuse sector services was a significant predictor of amelioration service use, no other significant predictor was found. Given substance abuse services were the least utilized by either of the two study subgroups, access to homelessness amelioration services appears to be primarily through an avenue not utilized by many study respondents. Considering all veteran respondents lacked permanent housing and many could likely use assistance in obtaining employment and benefits, access to these services must be provided through more mainstream channels versus just those seeking substance abuse treatment.

A final enabling factor which did predict the use of psychiatric services included the amount of time in the last year a homeless veteran possessed health insurance. During the initial survey, this question gathered data regarding public or private insurance and did not include eligibility for VA care. Noting only 19 veterans reported possessing this type of health insurance at any time in the last year, it was surprising this variable had such a considerable statistical influence of the regression model. However, given these individuals were using over

three times the average amount of services than veterans without health insurance, the statistical correlation between psychiatric sector service use and the possession of insurance was understandable. Attempting to understand this finings, questions can be raised whether the possession of insurance influences individuals to seek care for psychiatric problems or if service providers may seek to have these high consumers of psychiatric services certified for public insurance in order to recoup costs of care. While it is impossible to answer these questions using the available data, the results of this study indicated services appeared to be reaching those most in need.

6.4.3 Need-Based Factors as Predictors of Service Use

Summarizing the results of the hypothesis testing, no predisposing factors - including the concept of hardiness - significantly predicted the use of any of the five service sectors. Several enabling factors including homelessness amelioration service utilization, possession of health insurance, and the use of substance abuse services predicted the use of services. The final domain of factors assessed during this study included variables representing the evaluated need for homelessness assistance services. As noted by Wong (1999), need-based factors are especially relevant to this research:

> To attain a more equitable distribution of services, it is important to minimize the influences of predisposing factors such as race and ethnicity and education, and enabling factors such as income, while maximizing the influences of need factors such as physical and behavioral health status. (pp. 330).

For each of the sectors evaluated during this study, a need-based factor relevant to that sector was included in the analysis. They were physical health functioning for the medical sector, mental health functioning for the psychiatric sector, and a history of drug or alcohol abuse for the substance abuse sector. For the homelessness maintenance sector, need-based factors included the length of the current homelessness episode and total time homeless. Finally, need-based factors for the homelessness amelioration sector included the amount of time residing in a shelter in the last 90 days and the use of medical services.

Results indicated need-based factors significantly predicted the use of medical, psychiatric, and substance abuse services by homeless veterans. In other words, impaired physical functioning predicted medical care while impaired mental health functioning predicted mental health care. The only need-based factor predicting the use of substance abuse sector services was a history of drug abuse problems (DAST). A history of alcohol problems (MAST) was not predictive of substance abuse sector service utilization. For the homelessness maintenance and amelioration sectors, no need-based factors included in the models predicted service use.

Evaluating these results in the context of Wong's (1999) discussion above, it appeared access to medical, psychiatric, and mental health services could be considered equitable as need predicts service use. However, because homelessness amelioration services and the possession of insurance - enabling factors in this study - predicted the use of these service sectors as well, it cannot be equivocally stated that veterans do not face barriers to the services sectors. Given the overall need of this population, it was considered a positive finding that the use of case management services predicted the use of medical and substance abuse services. This indicated the service system was working cooperatively at some level. However, given the low number of veterans using homelessness amelioration services in the first place, it seems a large group of veterans may lack access to these needed resources.

6.4.4 Veteran Status as a Predictor of Hardiness

A sub-hypothesis included in this research proposed veteran status would predict higher levels of hardiness. Unlike the previous service utilization hypotheses, this sub-hypothesis included both veteran and non-veteran subgroups. Findings indicated veteran status was not a statistically significant predictor of hardiness. This finding indicated – at least for this sample – that while military training methods, outcomes, and values initially seemed logically consistent with hardiness, they are not statistically associated with this construct.

Among remaining predictor variables, years of education and mental health functioning scores statistically significantly predicted hardiness. Scores on the MAST did not predict hardiness. For both of these variables, a positive relationship was indicated with higher levels of education and mental health functioning predicting higher hardiness scores. Evaluating these findings, it has to be noted while education was statistically correlated with hardiness in this study and in prior research (Maddi et al., 2006), "hardiness is not a function of basic demographic considerations including age, education, religion, marital status, ethnicity, and job level" (Maddi, 1999, pp. 84, AA5). Therefore, while education did statistically predict hardiness in this study, this finding was theoretically inconsistent with the conceptualization of hardiness and the exiting body of knowledge.

Similarly, the ability of mental health functioning to statistically predict hardiness is inconsistent with current understandings of the interrelation between mental health and hardiness. While these two variables were statistically correlated and hardiness is considered positively related to mental health (Florian, Mikulincer, and Taubman, 1995), no research was identified utilizing mental health functioning as a predictor of hardiness. Conceptually, it seems plausible higher levels of mental health functioning could predict higher levels of hardiness. The characteristics of hardiness – commitment, control, and challenge - seem linked to adequate or improved mental health functioning. In other words, as the VR-12 measures functioning in terms of role limitations due to emotional problems, vitality / mental health, and social functioning, it does appear lower scores in these domains would have an impact on hardiness.

6.5 Summary of Discussion

In the midst of these study findings, a complex picture developed regarding the homeless males who participated in this study and their use of assistance services. Overall, veterans and non-veterans appeared quite similar in many respects but differences existed as well. Both groups appeared burdened with physical and mental health functioning limitations and there were concerns regarding the prevalence of substance abuse problems. For many

veterans and non-veterans, homelessness had been a protracted experience which increased concerns regarding the prevalence of the *chronically homeless* among the study sample. In the midst of these challenges, resource-related issues plagued both groups. While veterans appeared somewhat advantaged due to their ability to access VA services, the low level of income reported by both groups and the prevalence of felony criminal histories were considered to affect their ability to meet basic needs and access services. While not as pervasive among either group, the lack of identification was also considered to affect access to needed services.

Given these challenges, efforts made to assist people who are homeless are justified. However, a preliminary assessment is the veteran and non-veteran men recruited for this sample are underserved in respect to some critical services. While obviously only parts of a proposed *continuum of care*, the overall lack of reported contact with outreach and transitional housing providers did not bode well for the ability of these groups to escape homelessness. Noted previously, the regular use of emergency shelters or the tendency to sleep outdoors will generally not engender contact with service providers providing transitional or permanent housing and an array of supportive services. Linked to the lack of contact with outreach and transitional housing providers, ameliorative case management service utilization also seemed limited given the need.

Evaluating the use of medical, psychiatric, and substance abuse sector services yielded mixed results. Utilization of medical and psychiatric emergency room and inpatient hospital services was considered high and indicative of ongoing health limitations and the rigors of living homeless. Access to VA services and the resources available to veterans in the study area explained the higher rate of outpatient use by this subgroup. For both groups, substance abuse sector utilization seemed low. While this would seem to be preferable in the case of emergency room services – indicating fewer crisis-oriented care episodes - the overall low use of any substance abuse services including inpatient and outpatient treatment services indicated some substance abuse problems may be untreated. In terms of inpatient psychiatric or substance

abuse services, VA access did not appear to provide an advantage to homeless veterans. Non-VA inpatient substance abuse treatment was used by veterans nearly three-times as much as VA treatment resources. Veterans also sought non-VA inpatient psychiatric care more often than VA care but this difference was less pronounced.

Applying the construct of hardiness to the use of assistance service by homeless veterans yielded interesting results. For all service sectors, need-based and/or enabling factors statistically significantly predicted services. No predisposing factor – including hardiness – predicted the use of services. For the most part, access to medical, psychiatric, and substance abuse services could be considered equitable as need-based factors were predictive of use. In other words, as individuals perceive the need for care it appeared they actively sought it. However, enabling factors – especially the use of other service sectors - were also predictive of utilization. Ameliorative case management services were predictive of medical and substance abuse sector utilization. Providing additional support for service system integration, the use of substance abuse services predicted the use of ameliorative case management services.

6.6 Limitations of the Research

There were several limitations to this research. First, the design was cross-sectional and therefore relied heavily on retrospective data. While efforts were made to select measurement intervals which would facilitate accurate data, it is possible information was recalled inaccurately. The study also only included homeless veteran and non-veteran males utilizing an urban low-demand emergency shelter. Other sub-populations of males who are homeless were not sampled including those currently sleeping outdoors, living in transitional or supportive housing facilities, residing in more structured emergency shelters, or those from suburban or rural settings. However, the explicit purpose of this study was to evaluate residents of a low-demand urban emergency shelter. Future research could target other subpopulations of people who are homeless.

Because data collection took place between the months of April and August, individuals seeking emergency shelter only during colder months were not included. Given these limitations, caution should be exercised when generalizing the findings of this study to other sub-populations of veterans and non-veterans who are homeless. All data collected during the study was self-reported by the participants and this also represented a limitation of this study. As noted by Wenzel et al. (1995), the use of self report data is a drawback because of "respondent bias such as recall and underreporting of sensitive information" (pp. 1142). No agency-based administrative information was used to verify the information provided by study respondents. However, prior research also cited by these authors indicated some information provided by people who are homeless is accurate while data regarding psychiatric, alcohol, and drug problems may have been underreported (Wenzel). An additional factor complicating the collection of accurate data included the administration of the study instruments. All measures were administered by the researcher and this likely increased the influence of social desirability response bias.

A Final limitation of the study included the breadth of data collected during the study. As noted by Pollio et al. (2003) in their analysis of service utilization by people who are homeless; "the variables representing need, predisposing, and enabling factors, while valid and reliable, represent only a subset of possible measurements of the factors" (pp. 494). This certainly was the case with this study as well. Critical decisions were made during the conceptualization of the study and it is believed the instruments chosen supported the scientific rigor of the study. However, it is also acknowledged as factors are included, factors are inevitably excluded which may have contributed to the analysis of service utilization.

Structural characteristics of the local assistance network were not assessed during this study and represent confounds to service utilization. According to the Behavioral Model, these are the resources available to the system; the manner resources are organized, and are considered to influence the use of services (Aday and Anderson, 1974). While this study

established all evaluated services were geographically accessible to veteran and non-veteran respondents, no larger assessment was made regarding the availability of service resources. Consequently, if system resources and capacities were limited, individuals seeking services may be turned away despite a need and desire for services. Additionally, the data collected during this study precluded identifying whether individuals were physically or psychiatrically disabled, conditions often used to determine eligibility for public insurance, social entitlements, and access to some services. Therefore, if individuals were not able to meet specific eligibility requirements for services, then they would not be able to access – and subsequently utilize – them.

6.7 Strengths of the Research

This study provided additional perspective on the use of assistance services by veterans who are homeless. The inclusion of hardiness as a strengths-based predisposing variable represented a break from traditional approaches to service utilization research primarily utilizing deficit-based individual-level characteristics. While the research hypotheses were not supported and questions remain regarding the integrity of the hardiness construct, this study offers a departure point for further research.

Additional strengths included the selection of the study setting and the use of a random sample. Much research regarding the use of homelessness services by veterans utilized study populations heavily engaged in various service sectors. Few studies also utilized samples which could be considered representative of more isolated, underserved groups. Therefore, it is believed the emergency shelter-based random sample used in this research provided additional insight into the characteristics and needs of homeless veterans and non-veterans less engaged in assistance services. While a considerable amount of variation existed among the samples in the density and frequency of service use, the overall high level of need reported by both study groups and inconsistent utilization of services indicated barriers to accessing and utilizing services existed. Additionally, while concerns regarding the generalizability of the findings have

been identified, it is believed that this study possesses good external validity and the findings can be conservatively generalized to the study population.

6.8 Implications for Social Work Practice

A key social work practice implication generated by this study is the importance of outreach services to this population. Residing in a low-demand shelter with little on-site case management resources has left this subpopulation underserved. Department of Veterans Affairs and non-VA entities should prioritize a sustained effort to engage veteran and non-veteran men who are homeless, complete a comprehensive assessment of needs and resources, and facilitate care. The results of this study - the ability of need-based factors to predict service use - indicated many veterans will utilize services when they need them. Unfortunately, barriers exist to services as the level of utilization is not comparable with the overall reported level of need. A concerted outreach would help ensure services are promoted, evaluate eligibility, identify alternate sources of assistance, and follow-up with individuals as they seek services.

In addition to outreach, implications for social work practice are to encourage collaboration across the continuum of care. Positive results of this study indicated that as veterans utilize some service sectors, access to others is facilitated. As homeless veterans and non-veterans are contacted by outreach providers and become engaged in services, social workers in specialized settings should continue to evaluate the needs and resources of the client and facilitate cross-continuum care. Productive interagency relationships and information systems allowing for rapid referral and screening would be essential ingredients in creating a seamless assistance network.

In the midst of these efforts, it is important to acknowledge the importance of a strengths-based and client-centered approach to social work practice with people who are homeless. Too often, homeless veterans encounter “insensitive service providers, dehumanizing policies and procedures, and high levels of stress and frustration with the service delivery system” (Applewhite, 1997, pp. 19). Consequently, “many homeless mentally ill

individuals avoid contact with others, particularly members of the mental health profession, who are often viewed as having power to exert authoritarian control over their lives" (Cohen, 1989, p.505). While this study did not specifically measure the influence of these factors on the utilization of services, many respondents anecdotally expressed similar challenges. Noting that veterans and non-veterans were no less hardy than the normed population mean used in the research, it appears that paternalistic service approaches should be reconsidered.

In consideration of this point, there are intervention models which embrace a more client-centered and strengths-based approach to assisting people who are homeless. Two of the more prominent include the Assertive Community Treatment model (Young, Chinman, O'Leary et al., 2005; Harvard Mental Health Letter, 2006) and the Housing First supportive housing model (Tsemberis, 1999; Tsemberis, Gulcur, & Nakae, 2004). The Housing First Model has placed homeless individuals into housing at a higher rate and retained them longer in this housing than more conventional models (Tsemberis, Gulcur, & Nakae, 2004). This model also appears to contribute to a decrease in psychiatric symptoms due to an increase in perceived choice (Greenwood, Schaefer – McDaniel, Winkeln and Tsemberis, 2005). Assertive Community Treatment, which provides intensive treatment in the community versus an agency setting is demonstrating higher client satisfaction levels, less time homeless, increased use of community resources (Johnsen, Samburg, Calsyn, et al., 1999; Calsyn, Morse, Klinkenberg, et al., 1998). These models, approaching the client with proactive offers of support and resources, minimize many of the negative factors previously identified to influence the use of services.

In addition to the study findings, aspects of the literature review appeared useful for social work practice. While not necessary for the ultimate completion of the research, the effort to develop cultural competence regarding the U.S. Military proved worthwhile. Understanding overall military structure, how branches differed, training methods, training outcomes, and branch values, provided context when interacting with veteran respondents. In some instances it appeared to assist in engaging research participants during the interview. While the level of

cultural competence possessed by agencies in the study setting was not measured during this study, it is hoped assistance agencies serving homeless veterans have developed cultural competence regarding the unique aspects of military service.

6.9 Implications for Social Policy

Efforts to address homelessness occur at the community level but are largely rooted in federal social policy (Kyle, 2005; Foscarinis, 1996). While it is apparent that recent efforts have shown some progress in reducing homelessness (HUD, 2007), the results of this study indicated there is work to do. Considering the number of study respondents who reported being homeless longer than one year, a fundamental policy implication of this study is increased federal funding for permanent housing and accompanying supportive services. For homeless veterans, this would mean additional support for established VA programs including Health Care for Homeless Veterans, Domiciliary Care for Homeless Veterans, Compensated Work Therapy/Therapeutic Residence, Grant and Per Diem transitional housing, and HUD/VA Supportive Housing (VA, 2006). This established continuum of care has demonstrated an ability to serve the needs of many homeless veterans but resources are not sufficient given the need.

Veteran-specific permanent supportive housing is a critical component of serving homeless veterans. Expanding this resource is also in the interest of the groups included in this study and other subpopulations of people who are homeless. When veterans are unable to access permanent housing *set aside* specifically for veterans, they are forced to "compete with other needy groups including the elderly, disable, and families with small children" (Congressional Research Service (CRS), 2007). The lack of this resource also leaves veterans exiting transitional housing programs or unable to support themselves with few viable housing options (CRS).

In 2007, the National Alliance to End Homelessness (NAEH) identified a number of concrete policy-driven steps which could significantly reduce veteran homelessness. These included the creation of 5,000 permanent supportive housing units annually over the next 5

years and the funding of 20,000 housing choice vouchers, previously known as Section 8. Recognizing the need for accompanying supportive services, it was also recommended 100 million dollars be appropriated to provide these services (NAEH / Vital, 2007).

For non-veteran men who are homeless, similar social policy implications exist. Considering reported average length of homelessness, mental health limitations, physical health limitations, histories of substance abuse, and resource-related problems, many of these individuals would likely benefit from increased access to permanent housing with supportive services. Acknowledging that supply is not meeting demand, recent policy priorities proposed by the National Alliance to End Homelessness included increasing HUD homeless assistance grants to fund 15,000 new units of supportive housing and an increase of 80 million dollars for supportive services (NAEH / Policy, 2007). Additional recommendations were to fully fund all existing Housing Choice Vouchers and provide enough funding for an additional 100,000 vouchers.

Additional policy-oriented implications exist in regards to homeless veterans and non-veterans with felony criminal convictions and a history of incarceration. Currently, Federal law restricts the ability of individuals with a history of incarceration to obtain housing assistance through the Housing Choice or Public Housing Programs (NAEH / Policy, 2007). It also allows local housing authorities to place additional restrictions which can be much more severe. In Fort Worth, individuals seeking assistance through Housing Choice must submit to a criminal background check. If an individual possesses a history of drug related criminal activity or violent criminal activity or is a registered sex offender, they are denied assistance (Fort Worth Housing Authority, 2008). While these measures are obviously intended to promote the safety of the general public, it is worth asking if the interests of the public are indeed being served when individuals are denied access to these services.

A final policy implication of this study is based in the finding indicating proximity influenced the use of services by homeless veterans. Noted previously, veterans tended to

utilize non-VA resources for emergency or inpatient medical and psychiatric care. In terms of outpatient service utilization, veterans clearly utilized VA resources more than those provided by non-VA entities. Considering VA emergency and inpatient services were located 35 miles from the study site, this was not a surprising finding. Given the large amount of outpatient VA resources available to homeless veterans living in the study setting, it does appear the geographical distribution of services is meeting some aspects of homeless veteran needs. Implications for future policy would be to continue to carefully assess the distribution of VA resources and ensure all veterans – domiciled or not – are able to access the services they need.

6.10 Implications for Social Work Research

There is a clear need for additional research on the use of assistance services by veteran and non-veteran homeless men. For the data collected for this study, additional analyses would evaluate the density and frequency of service utilization in regards to race, age, and other pertinent variables. This basic understanding of differences and similarities within and between veteran and non-veteran study groups would help illuminate additional patterns of service use and need among this subpopulations of men who are homeless.

Other directions for future research involve the continued use of the construct of hardiness. While hardiness was not found to predict the use of services by veterans who are homeless, future research could investigate similar hypotheses with the non-veteran group. However, concerns regarding the validity of the construct of hardiness must be acknowledged. Discussed earlier, a concept such as hardiness is appealing as it acknowledges what is right with people who are homeless and evaluates phenomena such as service utilization from a more strengths-based perspective. However, in the process of this study the question continued to be raised as to whether the main proponents of hardiness have comprehensively addressed the concerns voiced by Funk and Houston (1987), Hull et al. (1987), Hull et al. (1991), Lambert and Lambert (1999), and Low (1999). It is acknowledged there have been improvements in

terms of the reliability and validity of hardiness measures but concerns regarding the initial conceptualization of the construct itself seemed to have gone unanswered.

In the midst of these concerns, additional hardiness-oriented research may include deconstructing the sector summary variables and testing the ability of hardiness to predict the use of specific services. While it is important to avoid *fishing* for statistically significant findings, the use of hardiness as a predictor of service use is still considered exploratory and testing all potential relationships is warranted. In the midst of these recommendations however, the conceptual and psychometric limitations of hardiness must be acknowledged. Concepts conceptually linked with hardiness including self-efficacy, locus of control, and the larger construct of resilience may offer more conceptually and psychometrically valid constructs with which to evaluate the use of services by homeless veterans and non-veterans.

Much more refined future research would include an economic assessment of service utilization by the study sample. By obtaining informed cost estimations for services including emergency rooms visits, shelter nights, and inpatient psychiatric days it would be possible to assess the economic impact of veteran and non-veteran male homelessness who reside in a low-demand emergency shelter. Further, by systematically comparing service utilization rates and overall fiscal costs of this sample with comparable veteran and non-veteran samples residing in supportive or transitional housing, it would be possible to support whether more alternative outreach efforts or the use of rapid-housing, i.e., Assertive Community Treatment or Housing First, approaches are economically justifiable.

APPENDIX A

CICH / SUNCODA SURVEY FORM

Demographic Information / Service Utilization

1. What is your age? ……_____

2. What is client's gender? (Code as observed) □ 1 = Male

3. To what racial group do you belong? (Mark only one.)
American Indian or Alaska Native …….. ……. □ 0 = No □ 1 = Yes
Asian …… ……. □ 0 = No □ 1 = Yes
Black or African American ……..…… ……. . □ 0 = No □ 1 = Yes
Native Hawaiian or Other Pacific Islander …..…… □ 0 = No □ 1 = Yes
White ……..……...□ 0 = No □ 1 = Yes
Refused……..……□ 0 = No □ 1 =Yes

4. Are you of Spanish/Hispanic/Latino origin (e.g., Mexican, Cuban, Puerto Rican)?
□ 0 = No □ 1 = Yes

5. If yes, to which Spanish/Hispanic/Latino group do you belong?
□ 1 = Mexican-American, Chicano □ 2 = Puerto Rican □ 3 = Cuban
□ 4 = Other Spanish/Hispanic □ 9 = RF

6. Which languages do you speak most of the time now?
□ 1 = English only □ 2=English and Spanish 3=Other (Specify)_____

7. How many years of school did you complete? …… _____
(Code primary school = 6; middle school = 8; diploma or GED = 12;
Associate's = 14; Bachelor's = 16;Master's = 18; MD/JD/PhD = 20)

8. What is your current marital status?
□ 1 = Single/Never married □ 2 = Married□3 =Divorced
□4 = Separated □ 5 =Widowed

9. How much of the past year were you covered by any type of health insurance, including Private insurance, Medicaid, or Medicare but not including the VA?
□ 1 = Not at all □ 2 = Less than 3 months □ 3 = Three to 6 months
□ 4 = Seven to 11 months □ 5 = All year

10. How many children do you have?....._____Children

10-a. How many of these children are under the age of 18?....._____Children

11. Do you have a valid photo ID such as a driver's license, state issued ID, or military ID? □ 0 = No □1=Yes

12. Have you ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard? □ 0 = No □1=Yes

HOUSING

13. How long have you been homeless this time?
Years_____Months _____Days _____

14. How many times have you been homeless in the last three years?..._____

15. How old were you when you first became homeless? …… _____

16. In your entire life, what is the total amount of time you have been homeless? …… … Years _____ Months_____Days_____

17. What was the last date that your own apartment, room or house every night for at least one month, ……__ __/ __ __/ __ __

18. During the past 3 months, how many nights did you spend in each of the following places?

18-a. Own apartment, room or house (incl. subsidized permanent supported housing) ..... ____
18-b. Someone else's apartment, room or house …… ____
18-c. Hotel, SRO, boarding home …… ____
18-d. Halfway house, residential treatment program (focus: establishing sobriety) ..... ____
18-d. Transitional housing (focus: movement into permanent housing) …_____
18-e. Institution (hospital, nursing home, etc.) …… ____
18-f. Jail or prison …… ____
18-g. Shelter …… ____
18-h. Outdoors, abandoned or public building, automobile. ……____
18-i. Other (Specify: _____) ……____
18-j. Total ……90/_____

19. In which of these places are you currently living? (Code A-J) …… ____

20. How many different places have you lived during the past 3 months? ____

CRIMINAL HISTORY

21. Have you been convicted of a felony crime as an adult?..... □ 0 = No □1= Yes

22. Have you been arrested & charged with any criminal offenses in the past 3 mos.? □ 0 = No □ 1 = Yes

23. In your entire life, what is the total amount of time you have spent in jail or prison?(Code 0's as applicable) …. A. # Yrs.: ____ B. # Months: ____

24. How many days were you in jail or prison during the past 3 months? …(# Days) ____

VETERAN'S SUPPLEMENT
The next few questions are about your military service, and use of VA services

25. What branch of military did you serve in?
□ 1= Army □2=Air Force □3=Navy □4=Marines □5= Coast Guard
□ 6=National Guard □ 7= Army Reserve □ 8=Airforce Reserve
□ 9=Navy Reserve □ 10=Marine Reserve □11=Other:_____

26. Total Duration of active duty? _____Years _____ mos.

27. What type of discharge did you have?
□ 1 = Honorable □ 2 = General □ 3 = Medical □ 4 = Bad Conduct
□ 5 = Dishonorable: □ 6 = Other (Specify: _____)

28. What was your rank at discharge?_____

29. What was you military occupational specialty (MOS)?_____

30. During which military service-era did you serve?

□ 1=Persian Gulf Era (8/1991 – Present) □ 2=Post-Vietnam (5/1975 – 4/1991)
□ 3=Vietnam Era (8/1964 – 4/1975)

□ 4=Between Korean and Vietnam War (2/1955 - 4/1964)
□ 5= Korean War (6/1950 – 1/1955)
□6= Between WWII and Korean War (8/1947 – 5/1950)
□ 7=World War II (9/1940 – 7/1947)
□ 8=Between WWI and WWII (12/1918 – 8/1940)
□ 10= World War I (4/1917 – 11/1918)

31. Did you serve in a war zone? □ 0 = No □ 1=Yes

31-a. **If Yes**, name of war zone?
□ 1=Europe □2=North Africa □3=Vietnam □4=Laos and Cambodia
□ 5=South China Sea □6=China, Burma, India □7=Korea □8=South Pacific
□ 9=Persian Gulf □ 10=Other _____

31-b. **If yes**, number of months in war zone? _____mos.

31-c. **If yes**, received hostile or friendly fire? □ 0 = No □ 1 = Yes

31-d. **If yes,** Were you wounded while serving in a war zone?
□ 0 = No □ 1 = Yes

32. All together, how many years and months did you serve on active duty in the U.S. Armed Forces,military Reserves, or National Guard?

Yrs.: ____ B. # Months: ____

33. Did you continuously serve more than 24 months on active duty?..
□ 0= No □1 =Yes

34. Do you currently have a VA Service connected disability? …..
□ 0 = No □ 1 = Yes

34-a. Is this service connected disability for a medical problem? ...
□ 0 = No □ 1 = Yes

34-b. What is the current disability rating for the medical problem
(0-100%) …... __ __ __ %

34-c. Is this service connected disability for a psychiatric problem?
□ 0 = No □ 1 = Yes

34-d. What is the current disability rating for the psychiatric problem
(0-100%) ….. __ __ __ %

35. Do you receive a non-service connected VA pension?
□ 0 = No □ 1 =Yes

36. How much do you receive from the VA per month?._____per month

37. How much of the past year have you been eligible to receive VA services?
□ 1 = Not at all □2 = Less than Three Months □ 3 = three to Six Months
□ 4 = Seven to 11 months □ 5 = All year

38. How long after your discharge did you first become homeless?
Years_____ Months_____

Now I'm going to ask you about your use of VA services. Remember thatthese questions are only in reference to services offered by the VA.

39. Within the last 12 months, how many times have you used _____ TIMES
the emergency room at a VA hospital for help with medical problems?

40.Within the past 12 months, how many different times were....._____ TIMES
you stay overnight in a VA hospital
for help with medical problems?

41. How many days (altogether) did you stay _____ DAYS
during (this/these) admission(s)? _____ WEEKS
_____ MONTHS

42.Within the past 12 months, how many different times did you _____ TIMES
use a VA outpatient clinic for help with your medical problems?

43. In the past 12 months, how many times have you used the ambulance
to take you to any kind of VA facility for help with
medical problems? _____TIMES

44.In the past 12 months, how many times have you
used a VA hotline for help with medical problems? _____ TIMES

Psychiatric Service Utilizaton:

45. Within the past 12 months, how many times have you gone to the emergency room at a VA hospital for help with emotions, nerves, or or mental health problems? _____ TIMES

46. Within the past 12 months, how many different times were you admitted overnight to a VA facility for help with your emotions, nerves or mental health? _____ TIMES

47. How many days (altogether) did you stay during (this/these) admission(s)? _____ DAYS
_____ WEEKS
_____ MONTHS

48. How many days in the last 12 months did you go to a VA outpatient clinic for help with your emotions, nerves or mental health?
_____TIMES

49. In the past 12 months, how many times have you used the ambulance to take you to a VA facility for help with you emotions, nerves, or mental health?
_____TIMES

Drug and Alcohol Subsection:

51. Within the past 12 months, how many times have you gone to the emergency room at a VA hospital for help with alcohol or drug problems?
_____ TIMES

52. In the past 12 months, how many times have you used the ambulance to take you to a VA hospital for help with alcohol or drug problems?
_____TIMES

53. Within the past 12 months, how many different times were you admitted overnight to a VA hospital for help with your problems with alcohol or drugs?
_____ TIMES

53-a. How many days (altogether) did you stay _____ DAYS

during (this/these) admission(s)? _____ WEEKS
_____ MONTH

54. Within the past 12 months, how many different times were you in an inpatient VA drug treatment program for help with alcohol or drug problems? _____ TIMES

54-a How many days (altogether) did you stay during (this/these) admission(s)? _____ DAYS
_____ WEEKS
_____ MONTHS

55. How many days in the last 12 months did you receive outpatient VA treatment for help with alcohol or drug problems? _____TIMES

55-a. How many days altogether did you attend this/these program(s)? ____TIMES

56. [If S58B equals 1, 2, or 3, ask:] In the past 12 months, how many times have you used a VA hotline for help with alcohol or drug problems? _____ TIMES

Homeless Programs:

59. During the last 12 months, how much time did you spend any of the following VA homeless veteran programs?

59-a. Transitional housing program…_____Times / _____Total Days
59-b. Domiciliary Treatment Program..._____Times / _____Total Days
59-c. CWT Prrogram....._____Times / _____Total Days
59-d. Vet Center ……_____Times / _____Total Days
59-e. Residential veteran program …_____Times / _____Total Days
59-f. Non-residential veteran program_____Times / _____ Total Days

Other VA services:
During the past 12 weeks, how many times did you receive any of the following other types of services?

60. Met with a VA outreach worker in a shelter or in the community?....._____

61. Met with someone from the VA who helped you find or keep a job? ...…_____

62. Met with someone from the VA who helped you find or keep housing?....._____

63. Met with someone from the VA who helped you with a legal problem? ...._____

64. Met with someone from the VA who helped you get VA benefits?....._____

65. Educational classes through the VA (e.g., GED, community college)? …. _____

66. Job training services through the VA……......_____

NON-VA SERVICE UTILIZATION

68. Within the last 12 months, how many times have you used the emergency room at a hospital for help with medical problems? ____ TIMES

69. Within the past 12 months, how many different times were you admitted overnight to a hospital for help with your medical problems? _____ TIMES

70. How many days (altogether) did you stay in the hospital during (this/these) admission(s)? _____ DAYS _____ WEEKS _____ MONTHS

71. Within the past 12 months, how many different times did you go to an outpatient clinic for help with your physical health problems? _____ TIMES

72. In the past 12 months, how many times have you used the ambulance to take you to a hospital for help with physical problems? _____TIMES

Psychiatric Service Utilizaton:

73. Within the past 12 months, how many times have you gone to the emergency room at a hospital for help with emotions, nerves, or or mental health? _____ TIMES

74. Within the past 12 months, how many different times were you admitted overnight to a hospital or other facility for _____ TIMES

help with your emotions, nerves or mental health?

75.How many days (altogether) did you stay during (this/these) admission(s)? _____ DAYS
_____ WEEKS
_____ MONTHS

76. How many times in the last 12 months did you go to an outpatient facility for help with your emotions, nerves or mental health? _____ Times

77. In the past 12 months, how many times have you used the ambulance to take you to a hospital for help with you emotions, nerves, or mental health? _____TIMES

78. In the past 12 months, how many times have you used a hotline for help with your emotions, nerves or mental health? _____ TIMES

Drug and Alcohol Subsection:

79. Within the past 12 months, how many times have you gone to the emergency room at a hospital for help with alcohol problems? _____ TIMES

80. In the past 12 months, how many times have you used the ambulance to take you to a hospital for help with drugs and alcohol problems? _____TIMES

81.Within the past 12 months, how many different times were you admitted overnight to a hospital for help with your problems with alcohol or drugs? _____ TIMES

81-a. How many days (altogether) did you stay during (this/these) admissions? _____ DAYS
_____ WEEKS
_____ MONTHS

82.Within the past 12 months, how many different times were you admitted to an inpatient drug treatment program for help with alcohol or drug problems? _____ TIMES

82-a. How many days (altogether) did you stay _____ DAYS

during (this/these) admission(s)? _____ WEEKS
_____ MONTHS

83. Within the past 12 months, how many different times were you admitted overnight to a long-term treatment facility for help with your problems with alcohol? _____ TIMES

83-a. How many days (altogether) did you stay during (this/these) admission(s)? _____ DAYS
_____WEEKS
_____ MONTHS

84. How many days in the last 12 months did you receive outpatient treatment for problems with drugs and alcohol? _____TIMES

84-a. How many days altogether did you attend this/these programs?_____DAYS

85. [If S58B equals 1, 2, or 3, ask:] In the past 12 months, how many times have you used a hotline for help with drugs and alcohol problems? _____ TIMES

86. [If S72B equals 1, 2, or 3, ask:] In the past 12 months, how many times have you gone to a self-help group for help with your problems with drugs and alcohol? _____ TIMES

Other services:

During the past 12 weeks, how many times did you receive any of the following other types of services?

87. Met with an outreach worker in the community or in the shelter..._____

88. Met with someone who helped you find or keep a job? ….. _____
89. Met with someone who helped you find or keep housing?...._____

90. Met with someone who helped you with a legal problem? …_____

91. Met with someone who helped you get food stamps, public assistance, VA benefits, un-employment compensation, or other types of benefits or services?....._____

92. Educational classes (e.g., GED, community college)? …. _____

93. Job training services…….._____

94. Child care services? ……..….. _____

During the past 12 weeks, how often did you get services from any of the following places?

95. A soup kitchen offering cooked meals……_____

96. A food pantry (i.e., place where canned goods/ nonperishableitems are provided for free or below-market price) …….……._____

97. A mobile food van, wagon, or program providing free food? _____

98. Free clothing from an agency or church…….._____

Other Services

In the last 12 weeks, how many times did you?

99. Go to a daytime drop in center?....._____Times

100. Have your clothes laundered at a day-time drop in center?_____Times

101. Use computers at a drop in center?....._____Times

102. Use the phone at a drop in center?....._____Times

103. Take a shower at a drop in center?....._____Times

104. Had your mail delivered to a drop in center……...._____Times

Employment

105. How many hours per week on average do you spend earning money? _____

Income

106. Including all sources of income, how much money did you make last month? _____

APPENDIX B

DRS15-R HARDINESS SCALE

Dispositional Resilience Scale (DRS-15R) - Hardiness*

Instructions: Below are statements about life that people often feel differently about. Please show how much you think each one is true. Give your own honest opinions... There are no right or wrong answers.

Response options:

0=not at all true
1=a little true
2=quite true
3=completely true

KEY	ITEM
CM+	1. Most of my life gets spent doing things that are worthwhile.
CO+	2. Planning ahead can help avoid most future problems.
CH-	3. I don't like to make changes to my regular activities.
CM-	4. I feel that my life is somewhat empty of meaning.
CH+	5. Changes in routine are interesting to me.
CO+	6. By working hard you can nearly always achieve your goals.
CM+	7. I really look forward to my work activities.
CO+	8. If I'm working on a difficult task, I know when to ask for help.
CO-	9. I don't think there's much I can do to influence my own future.
CM+	10. Trying your best at work is really worth it in the end.
CH-	11. It bothers me when my daily routine gets interrupted.
CM+	12. Most days, life is really interesting and exciting for me.
CH+	13. I enjoy the challenge when I have to do more than one thing at a time.
CH-	14. I like having a daily schedule that doesn't change very much.
CO+	15. When I make plans I'm certain I can make them work.

CM=commitment
CO=control
CH=challenge

APPENDIX C

VETERANS RAND 12-ITEM HEALTH SURVEY

THE VETERANS RAND 12 ITEM HEALTH SURVEY (VR-12)

Instructions: This questionnaire asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure how to answer a question, please give the best answer you can.

(Circle one number on each line)

1. In general, would you say your health is:

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
1	2	3	4	5

2. The following questions are about activities you might do during a typical day. Does **your health now limit you** in these activities? If so, how much?	YES, LIMITED A LOT	YES, LIMITED A LITTLE	NO, NOT LIMITED AT ALL
a. **Moderate activities,** such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?	1	2	3
b. Climbing **several** flights of stairs?	1	2	3

3. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health?**

	NO, NONE OF THE TIME	YES, A LITTLE OF THE TIME	YES, SOME OF THE TIME	YES, MOST OF THE TIME	YES, ALL OF THE TIME
a. **Accomplished less** than you would like.	1	2	3	4	5
b. Were limited in the **kind** of work or other activities.	1	2	3	4	5

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

	NO, NONE OF THE TIME	YES, A LITTLE OF THE TIME	YES, SOME OF THE TIME	YES, MOST OF THE TIME	YES, ALL OF THE TIME
a. **Accomplished less** than you would like.	1	2	3	4	5
b. Didn't do work or other activities as **carefully** as usual.	1	2	3	4	5

5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and house work)?

NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1	2	3	4	5

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

6. How much of the time during the past 4 weeks:

	ALL OF THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME
a. Have you felt **calm and peaceful**?	1	2	3	4	5	6
b. Did you have **a lot of energy**?	1	2	3	4	5	6
c. Have you felt **downhearted and blue**?	1	2	3	4	5	6

7. During the past 4 weeks, how much of the time has your **physical health or emotional problems** interfered with your social activities (like visiting with friends, relatives, etc.)?

ALL OF THE TIME	MOST OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME
1	2	3	4	5

Now, we'd like to ask you some questions about how your health may have changed.

8. Compared to one year ago, how would you rate your **physical health** in general now?

MUCH BETTER	SLIGHTLY BETTER	ABOUT THE SAME	SLIGHTLY WORSE	MUCH WORSE
1	2	3	4	5

9. Compared to one year ago, how would you rate your **emotional problems** (such as feeling anxious, depressed or irritable) now?

MUCH BETTER	SLIGHTLY BETTER	ABOUT THE SAME	SLIGHTLY WORSE	MUCH WORSE
1	2	3	4	5

PLEASE PLACE THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE WE SENT YOU.
NO STAMP IS REQUIRED: SIMPLY PLACE THE ENVELOPE IN ANY MAILBOX.

YOUR ANSWERS ARE IMPORTANT.
THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

APPENDIX D

MICHIGAN ALCOHOL SCREENING TEST

MICHIGAN ALCOHOL SCREENING TEST

CIRCLE EITHER "YES" OR "NO" FOR EACH ITEM AS IT APPLIES TO YOU.

Item			Wgt.
Do you feel you are a normal drinker?	Yes	No	2
Does your wife, husband, or other near relative ever worry or complain about your drinking?	Yes	No	1
Do you feel guilty about your drinking?	Yes	No	1
Do your friends or relative think you are a normal drinker?	Yes	No	2
Are you able to stop drinking when you want to?	Yes	No	2
Have you ever attended a meeting of Alcoholics Anonymous (AA)?	Yes	No	5
Has drinking ever created problems between you and your wife, husband, or other near relative?	Yes	No	2
Have you ever gotten in trouble at work because of your drinking?	Yes	No	2
Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?	Yes	No	2
Have you ever gone to anyone for help about your drinking?	Yes	No	5
Have you ever been in a hospital because of your drinking?	Yes	No	5
Have you ever been arrested for drunken driving while intoxicated or driving under the influence of alcoholic beverages?	Yes	No	2
Have you ever been arrested, even for a few hours, because of other drinking behavior?	Yes	No	2

APPENDIX E

DRUG ABUSE SCREENING TEST

NAME: _____ DATE: _____

DRUG USE QUESTIONNAIRE (DAST – 10)

The following questions concern information about your possible involvement with drugs not including alcoholic beverages during the past 12 months. Carefully read each statement and decide if your answer is "Yes" or "No". Then, circle the appropriate response beside the question.

In the statements "drug abuse" refers to (1) the use of prescribed or over the counter drugs may include: cannabis (e.g. marijuana, hash), solvents, tranquillizers (e.g. Valium), barbiturates, cocaine, stimulants (e.g. speed), hallucinogens (e.g. LSD) or narcotics (e.g. heroin). Remember that the questions **do not** include alcoholic beverages.

Please answer every question. If you have difficulty with a statement, then choose the response that is mostly right.

These questions refer to the past 12 months.	**Circle Your Response**	
1. Have you used drugs other than those required for medical reasons?	Yes	No
2. Do you abuse more than one drug at a time?	Yes	No
3. Are you always able to stop using drugs when you want to?	Yes	No
4. Have you had "blackouts" or "flashbacks" as a result or drug use?	Yes	No
5. Do you every feel bad or guilty about your drug use?	Yes	No
6. Does your spouse (or parents) ever complain about your involvement with drugs?	Yes	No
7. Have you neglected your family because of your use of drugs?	Yes	No
8. Have you engaged in illegal activities in order to obtain drugs?	Yes	No
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	Yes	No
10. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)?	Yes	No

APPENDIX F

ALCOHOL AND DRUG CONSUMPTION ITEMS

Alcohol and Drug Consumption

Now, I would like to ask you about your consumption of drugs or alcohol in the last 30 days. In the last thirty days did you use any _____? If so, how many days in the last month did you use _____?

Substance	Used in Last 30	Not Used in Last 30	Days Used
Tobacco			
Alcohol			
Marijuana or Hashish			
Cocaine			
Inhalants			
Opiates			
Hallucinogens			
Speed			

APPENDIX G

INFORMED CONSENT DOCUMENT

Subject Name: _____ Date: _____
Title of Study: Hardiness and Homelessness: A Strengths-Based Perspective of Service-Use by Homeless Veterans, #07-123
Principal Investigator: Dr. Carol S. North, MD, MPE
Co-Investigator(s): James Petrovich, LMSW
Study Coordinators: Dana Downs, MA, MSW

Before agreeing to take part in this research study, it is important that you read and understand the proposed research explained below. It describes the procedures, benefits, risks and discomforts of the study. It also describes other treatments that are open to you and your right to withdraw from the study at any time. It is important for you to understand that no promises can be made about the results of the study.

1. WHAT IS THIS RESEARCH STUDY ABOUT?

The study you are being asked to participate in research with men who are homeless some of whom are veterans of the armed forces and some who have no history of military service. The purpose of this research is to understand if veterans and non-veterans who are homeless and the way these groups use services to help people who are homeless is different. We expect that this interview will last about one hour. The approximate number of research subjects involved in this study is 220.

2. WHAT WILL HAPPEN DURING THE STUDY?

You will be asked to answer a number of questions about yourself and your use of services intended to assist people who are homeless. The topics will include basic information about you, any military services, how you are doing emotionally and physically, any history of problems with alcohol or drugs, your use of alcohol or drugs in the last thirty days, questions about the services you have used in the last year, and general questions about how you handle stress or difficulty. The researcher will ask the questions and record your answers for you. In some cases, you will be asked to pick from a number of possible answers while other questions will ask you to determine your own answer. Because this interview does ask about some areas which might be sensitive for some people, it is possible you might feel uncomfortable answering. You should understand that you can pass on any question, skip any section, or stop the interview at any time.

SUBJECTS IDENTIFICATION (I.D., plate or give name-last, first, middle)

NOT APPLICABLE

3. WHAT ARE MY RISKS?

As discussed above, you may feel some psychological discomfort as you discuss some of the areas we will be asking about. There are no known physical risks to participating in this study.

Subject Name: _____ Date: _____
Title of Study: Hardiness and Homelessness: A Strengths-Based Perspective of Service-Use by Homeless Veterans, #07-123
Principal Investigator: Dr. Carol S. North, MD, MPE
Co-Investigator(s): James Petrovich, LMSW
Study Coordinators: Dana Downs, MA, MSW

4. WILL THE RESEARCH BENEFIT ME OR OTHERS?
Participation in this study may be of no benefit to you. However, we expect that understanding if differences exist between veterans and non-veterans who are homeless and their use of assistance services will help us to develop better programs.

5. WHAT ARE MY ALTERNATIVES TO BEING A RESEARCH SUBJECT?
The only alternative to your participation in this research is to not participate.

6. WILL I GET PAID?
You will be paid five dollars for participating in this study.

7. WILL I HAVE TO PAY?
You do not have to pay to participate in this research.

8. WHAT IF I GET INJURED?
You do not give up any legal rights to payment for injuries caused by research by signing this form. The Federal Tort Claims Act is a way to request payment from the government for injuries caused by VA research. You should report any problems to them promptly. The study doctors' phone numbers are at the end of this form. If you are a veteran and require additional medical treatment, you may be subject to a co-payment. If third-party insurance covers such costs, the VA will not provide such coverage. If you are a non-veteran, and require additional medical treatment due to injuries caused by the research, the VA has no financial responsibility other than to provide treatment in the event of a medical emergency to the point of stabilization. Emergency treatment will be provided to the non-veteran patient.

10. ARE MY RESEARCH RECORDS SAFE FROM THE PUBLIC?
The study doctors keep your research records private in the same way as your other medical records. No one has access to your records except as required by law. You are, however, authorizing the Dallas VA Institutional Review Board (IRB), the Dallas VA Research and Development Committee and the members of the Dallas VA Research Office to inspect research records. These committees, people, and offices at the Dallas VAMC are responsible for overseeing human research studies.

Subject Name: _____ Date: _____
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Principal Investigator: Dr. Carol S. North, MD, MPE
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Study Coordinators: Dana Downs, MA, MSW

By signing this form, you will allow the Veterans Health Administration (VHA) to provide Dr. Carol S. North, MD, and her research team access to the records of this interview. By signing this form, you agree to allow the data collected in this study to be used for future research. There will be no connection between your name or identity and any content of the interview.

If you do not sign this form, you will not be a part of the study. This approval to use your health data has no expiration date.

VHA complies with the requirements of the Health Insurance Portability and Accountability Act of 1996 and all other laws that protect your privacy. We will protect your health data according to these laws. Despite these protections, there is a possibility that your health data could be used or disclosed in a way that it will no longer be protected. Our Notice of Privacy Practices (a separate document) provides more information on how we protect your health data. If you do not have a copy of the Notice, the research team will provide one to you.

If you choose to take part in the study, certain government agencies (such as the FDA or VA) may look at your research records. Your name as a subject in this study is private, and will not be included in any report prepared as a result of this study.

11. DO I HAVE TO TAKE PART IN THIS STUDY, OR CAN I WITHDRAW FROM THE STUDY?

Taking part in this study is voluntary and you may refuse to take part without penalty or loss of benefits to which you are otherwise entitled. You are free to withdraw your consent and stop taking part at any time. Not taking part in the study will in no way affect the quality of care you receive now or in the future from the VA, The Presbyterian Night Shelter, or the Day Resource Center for the Homeless. This will also not affect your right to take part in other studies. The study doctors will answer any questions you may have about the study.

You can also take back your authorization for the VHA or the study doctors to access or to share your health data with outside parties at any time. To stop taking part in the study or to take back your authorization, you should contact both:

1) Dr. Carol North or her representative listed at the bottom of this form, and
2) the IRB Administrator of the Dallas VA Medical Center [telephone: 214-857-0291]; mail:
   Dallas VA Medical Center, IRB Administrator (151)
   4500 S. Lancaster Rd.

Subject Name: _____ Date: _____
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Study Coordinators: Dana Downs, MA, MSW

Dallas, TX 75216.

If you decide to take back your authorization, you will be given a form to show your desire in writing. If you take back your authorization, you will not be able to continue to take part in the study. This will not affect your rights as a VHA patient if applicable or your status as a client at the Day Resource Center or the Presbyterian Night Shelter.

If you take back your authorization, Dr. North and her research team can keep using health data about you that has been collected. No health data will be collected after you take back the authorization.

12. WHOM SHOULD I CONTACT FOR QUESTIONS OR PROBLEMS?

If you have any questions about this study or have any bad effects of your treatment, you should call the study doctor, whose name and contact number appear on the last page of this form.

If you have any questions about whether this is a VA North Texas Healthcare System-approved research study, you may contact the Research Compliance Officer at 214-857-0341.

If you have any questions about your rights as a patient, complaints about your treatment or general concerns about the conduct of the research study, you may contact the Dallas VAMC Patient Representatives at 214-857-0482. The Patient Representative will guide you in resolving your question or complaint.

If you have a medical emergency you should immediately call 911 for assistance.

RESEARCH SUBJECT'S RIGHTS:

I have read or have had read to me all of the above. The study has been explained to me and all of my questions have been answered. If I have questions later, I understand I can contact Dr. North by calling Dana Downs at 214-857-2296 or 214-648-5378. I have been told of the risks or discomforts and possible benefits of the study. I have been told of other choices of treatment open to me. I understand that I do not have to take part in this study and my refusal to take part will involve no penalty or loss of rights to which I am entitled. I may withdraw at any time without penalty or loss of VA or other benefits, or access to services at the Presbyterian Night shelter or the Day Resource Center.

In case of a medical emergency I have been told to call 911

I understand my rights

Subject Name: _____ Date: _____
Title of Study: Hardiness and Homelessness: A Strengths-Based Perspective of Service-Use by Homeless Veterans, #07-123
Principal Investigator: Dr. Carol S. North, MD, MPE
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Study Coordinators: Dana Downs, MA, MSW

as a research subject, and I voluntarily consent to take part in this study. I authorize the use of my identifiable patient health information as described in this form. I will receive a signed copy of this consent form.

Subject's Signature **Date**

Signature of Witness and Date **Witness (printed)**

I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known side effects and benefits of the research.

Principal Investigator or designee (Signature) **Date**

Research Subject's Bill of Rights

1. Be informed of the nature and purpose of the research.

2. Be clearly told of the procedures to be followed in the medical research, and any drug or device to be used.

3. Be clearly told of any discomforts and risks that might be expected from the research.

4. Be clearly told of any benefits that the patient might expect from the research.

5. Be clearly told of any other appropriate procedures, drugs, or devices that might be helpful to the patient, and their risks and benefits.

6. Be clearly told how to get medical treatment, if needed, after the research is finished if problems should arise.

7. Be given the chance to ask any questions about the research or the procedures involved.

8. Be clearly told that consent to take part in the medical research and/or release of identifiable patient health information may be taken back at any time. The patient may stop taking part in the medical research without any penalty or loss of VA or other benefits.

9. Be given a copy of the signed and dated written consent form.

10. Be given the chance to decide to consent or not to consent to a medical research study without any force, fraud, deceit, duress, coercion, or undue influence on the patient's decision.

APPENDIX H

REGRESSION SCATTER PLOTS

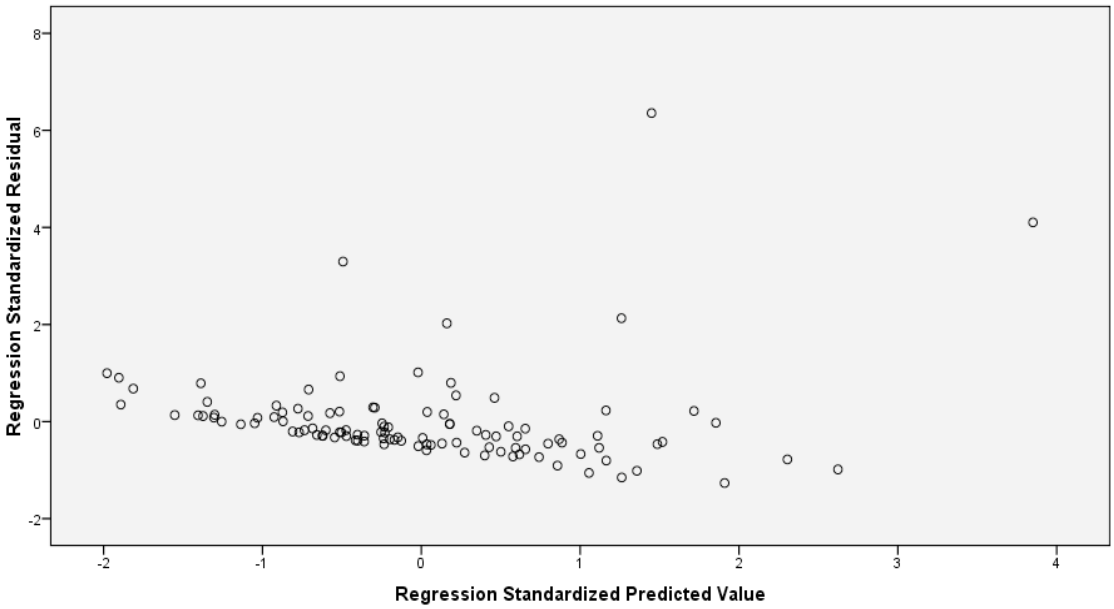

Figure H.1 Diagnostic scatter plot for hypothesis 1 (medical sector services)

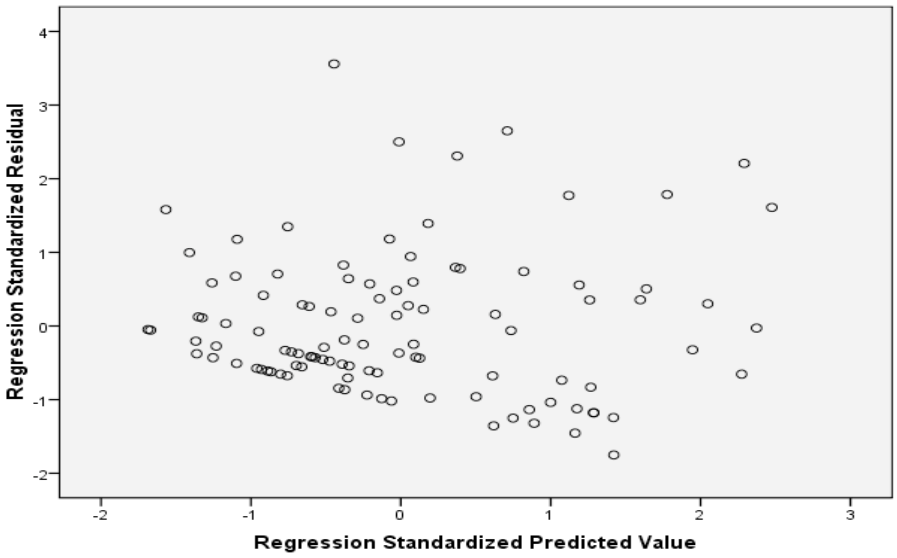

Figure H.2 Subsequent residual scatterplot for hypothesis 1 (medical sector services) with outliers removed from analysis

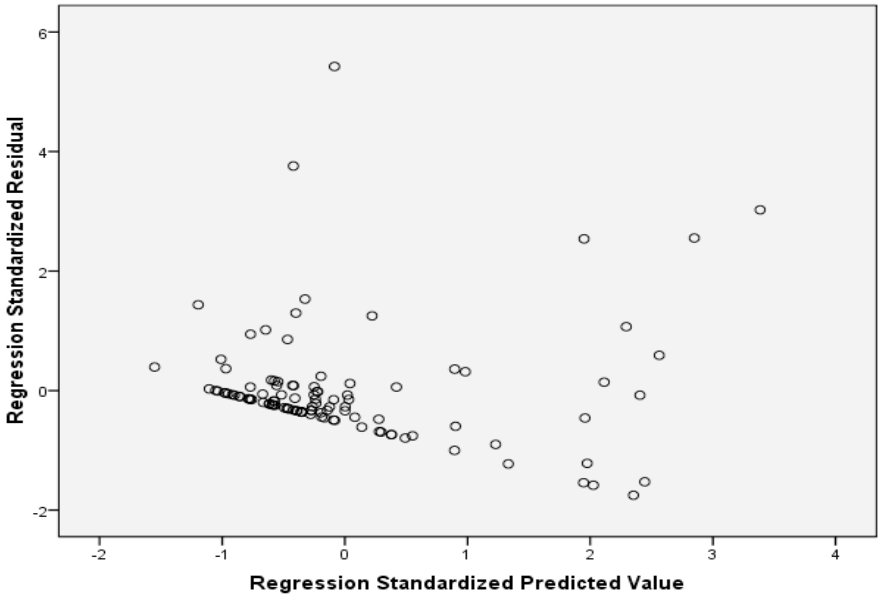

Figure H.3 Diagnostic scatter plot for hypothesis 2 (psychiatric sector services)

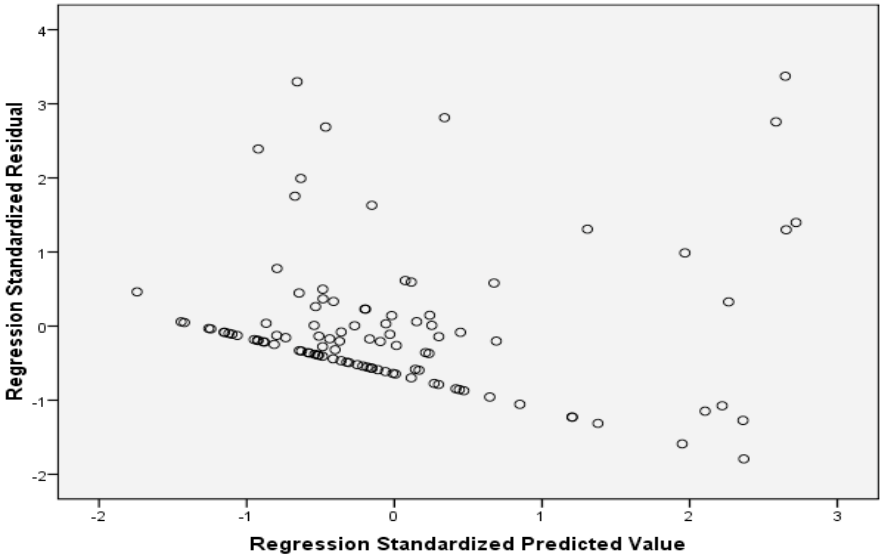

Figure H.4 Residual scatter plot for hypothesis 2 (psychiatric sector services) with outliers removed from analysis

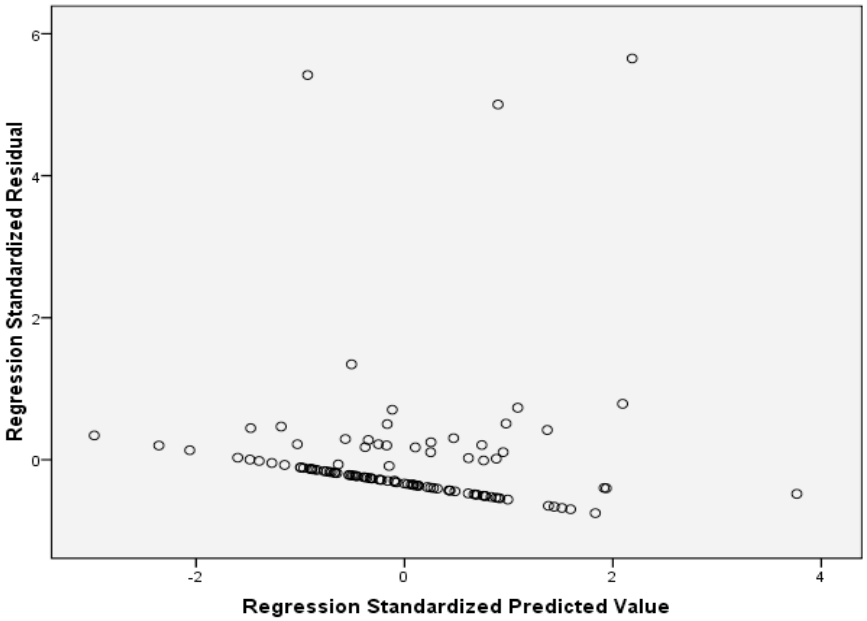

Figure H.5 Diagnostic scatter plot for hypothesis 3 (substance abuse sector services)

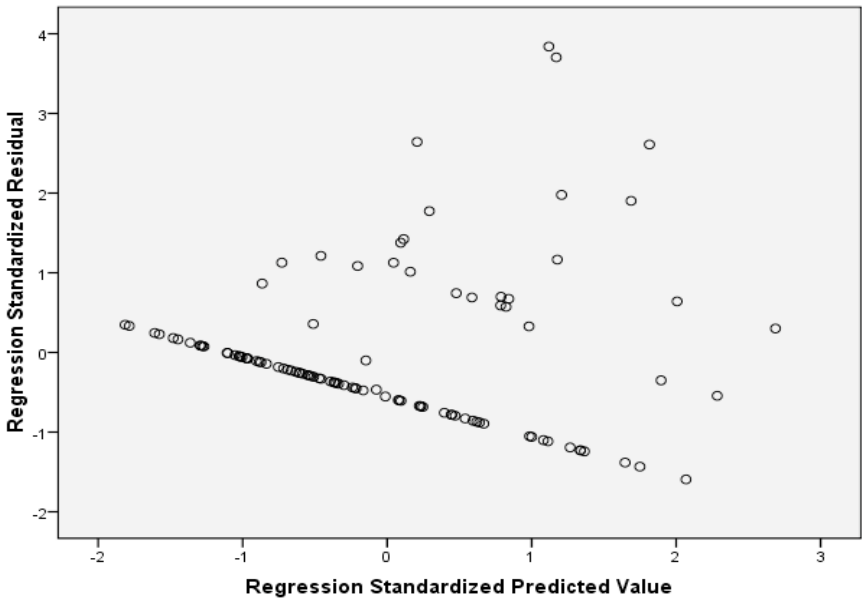

Figure H.6 Subsequent residual scatter plot for hypothesis 3 (substance abuse sector services) with outliers removed from analysis

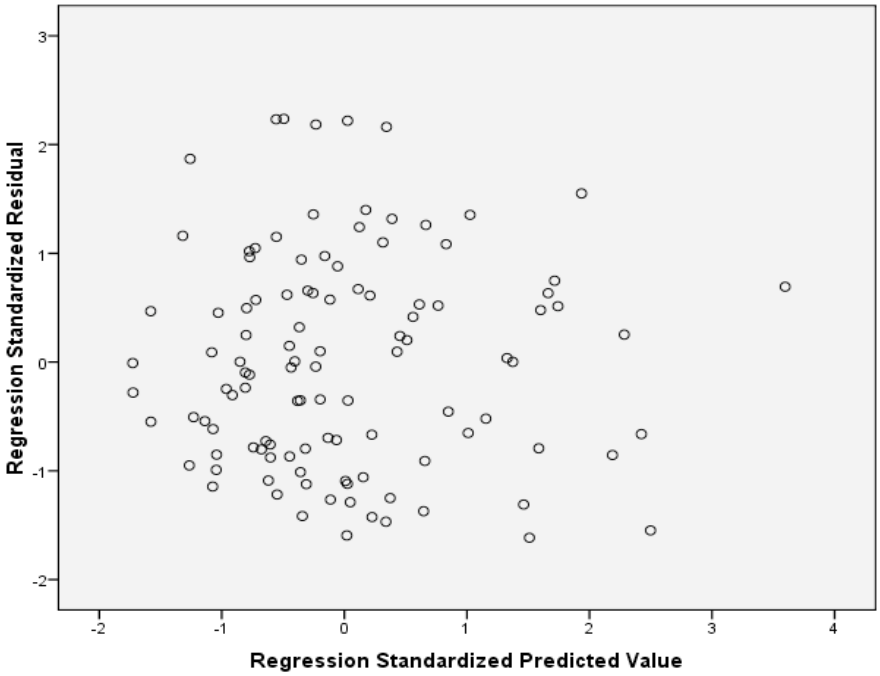

Figure H.7 Residual scatter plot for hypothesis 4 (homelessness maintenance sector services)

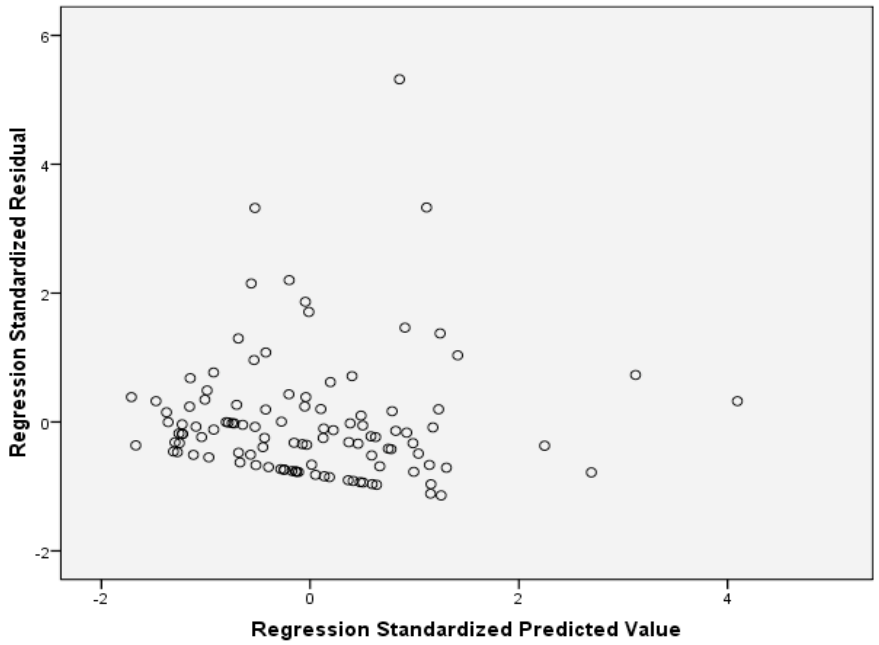

Figure H.8 Diagnostic scatter plot for hypothesis 5 (homelessness amelioration sector services)

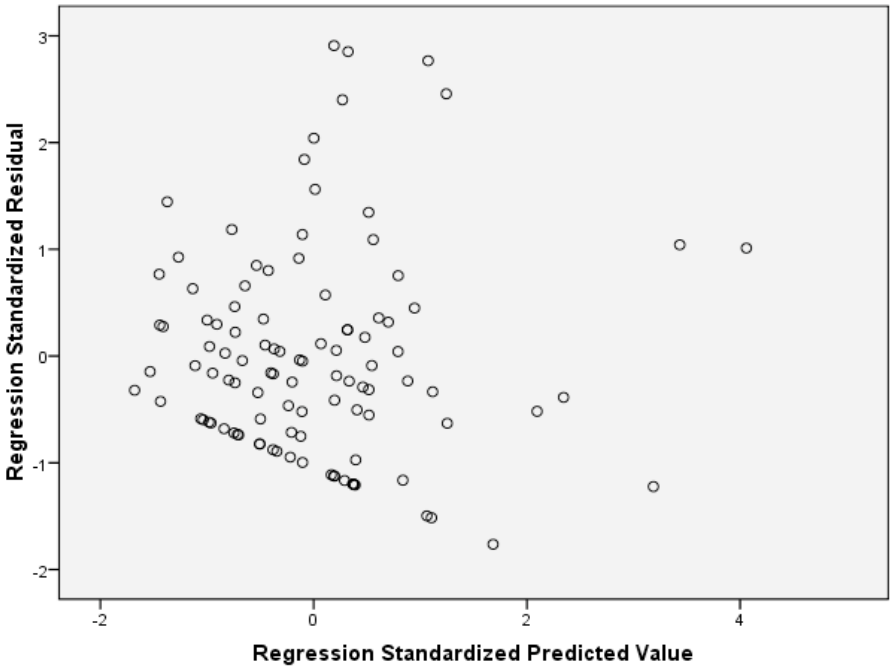

Figure H.9 Residual scatter plot for hypothesis 5 (homelessness amelioration sector services) with outliers removed

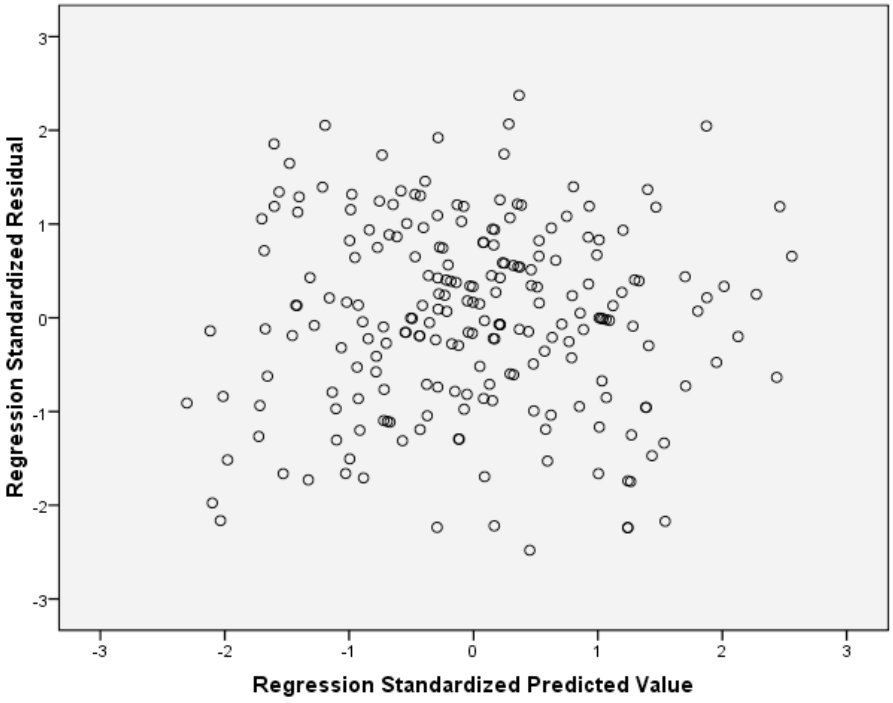

Figure H.10 Diagnostic scatter plot for hypothesis 6 (veteran status and hardiness)

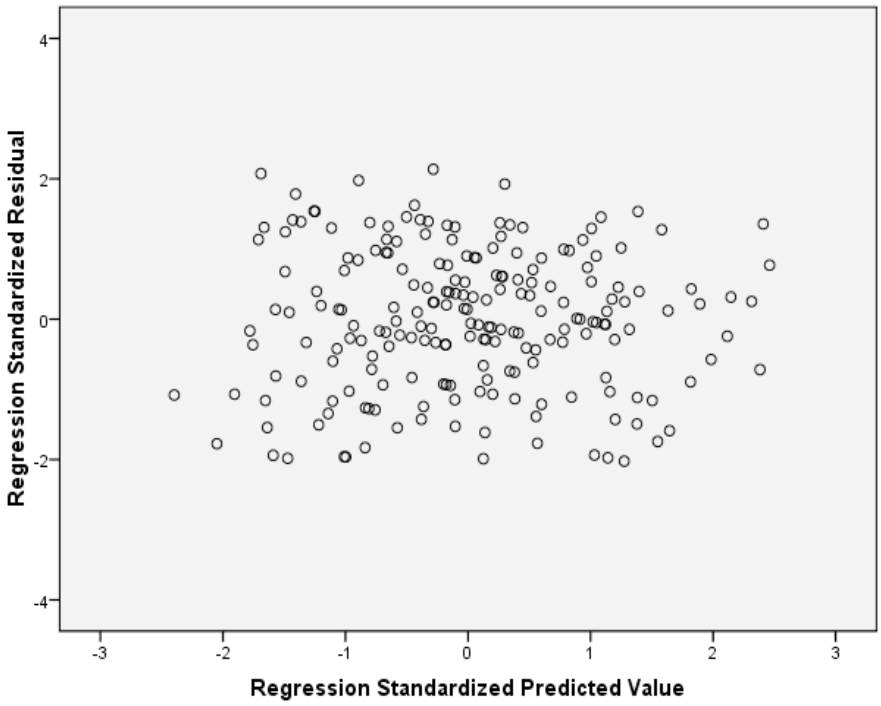

Figure H.11 Residual scatter plot for hypothesis 6 (veteran status and hardiness) with outliers removed from analysis

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BIOGRAPHICAL INFORMATION

James Petrovich is a newly minted social work Ph.D. graduating from The University of Texas at Arlington School of Social Work. He obtained a BSW from Mississippi College and an MSW from New York University in 2003. James' primary research interest is the social problem of homelessness. Within this larger issue, he also takes special interest in the areas of veteran homelessness, the criminalization of homelessness, and non-traditional approaches to housing and case management. In 2008, James was one of two social work doctoral students awarded a VA Pre-Doctoral Social Work Fellowship Program appointment. Currently, James is the independent evaluator for Directions Home, the ten year plan to end chronic homelessness in Fort Worth, Texas. In his spare time he enjoys visiting with family and friends, refurbishing his 1928 craftsman bungalow, working on classic and vintage BMW motorcycles, and traveling.