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THE INFLUENCE OF CONTEXTUAL FACTORS ON COMMUNITY REINTEGRATION AMONG SERVICE MEMBERS INJURED IN THE GLOBAL WAR ON TERRORISM

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THE INFLUENCE OF CONTEXTUAL FACTORS ON COMMUNITY
REINTEGRATION AMONG SERVICE MEMBERS INJURED IN THE GLOBAL
WAR ON TERRORISM

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Parks, Recreation, and Tourism Management

by
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Accepted by:
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ABSTRACT

Community reintegration among military service members with physical and psychological injuries sustained during combat has been an emerging issue since the beginning of the Global War on Terror (GWOT) in 2001. Injured service members from the GWOT, including Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn, are much more likely to survive their injuries when compared to previous wars such as the Vietnam War and World War II (Holcomb, Stansbury, Champion, Wade, & Bellamy, 2006). Therefore, many more injured service members are receiving physical rehabilitation and mental health services to assist them in transitioning back into their homes and communities. Recent studies have indicated that injured service members are at risk of poor community reintegration (Resnik & Allen, 2007; Resnik, Plow, & Jette, 2009). However, these studies have neglected to account for personal and environmental factors (e.g., contextual factors) that influence community reintegration. These contextual factors have the potential to greatly affect an injured service members ability to reintegrate (Resnik et al., 2012). Therefore, the purpose of this mixed methods study was to identify and explain the influence of contextual factors on community reintegration among service members who have sustained physical and/or psychological injuries while serving in the GWOT.

DEDICATION

This dissertation is dedicated to the men and women who served in the United States military and sacrificed their bodies and minds for their comrades and our country. We, as civilians, therapists, and service providers must return the favor by helping them heal from the physical and mental wounds of war. This dissertation was completed in appreciation of our freedoms as a result of their sacrifice.

ACKNOWLEDGMENTS

First, I thank the service members who participated in the study and freely shared their time and experiences. The process of better understanding how to help injured service members began with those who participated in this study.

Next, I thank my committee members Dr. Fran McGuire, Dr. Lynne Cory, Dr. Sandy Linder, and Dr. Tom Britt. Their insight, guidance, and encouragement throughout the dissertation process challenged and motivated me until the completion. I also thank my fellow graduate students who assisted with this dissertation by listening to the many presentations associated with the project, helping with problem solving in various stages of the dissertation, transcribing interviews, analyzing interviews, sharing the humor in academics and research, and sharing the day-to-day struggles and triumphs as a graduate student.

Most importantly, I thank my wife, Carmen, for her love, patience, emotional support, and financial support throughout this process. The countless nights and weekends I spent working on my dissertation and degree, enduring the offbeat academic language and humor shared by our friends and my fellow graduate students, and the many other challenges of being the wife of a PhD student are recognized and greatly appreciated. I also thank my Mom and Dad for always believing in me even when I did not. I will never be able to repay everything you have done for me.

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CHAPTER 1

INTRODUCTION

Community reintegration among injured military service members who have returned to the United States with physical and psychological injuries sustained during combat has been an emerging issue since the beginning of the Global War on Terror (GWOT) in 2001 (Garcia, 2010; “Improving Care,” 2009; Resnik & Allen, 2007; Trudel, Nidiffer, & Barth, 2007). Service members injured in the GWOT, such as Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND), are much more likely to survive their injuries when compared to previous wars such as Vietnam War and World War II (Department of Defense, 2012; Gawande, 2004; Holcomb et al., 2006). Therefore, many more injured service members are receiving physical rehabilitation and mental health services to assist them in transitioning back into their homes and communities, also referred to as community reintegration. Recent studies have conceptualized and measured community reintegration among injured service members (Resnik, Gray, & Borgia, 2011; Resnik & Allen, 2007; Resnik & Plow, 2009; Resnik et al., 2009); however, these studies have not accounted for the personal and environmental factors (i.e., contextual factors) that influence the injured service members’ ability to live active and engaged lifestyles in their homes and community. This study proposed to address this limitation by striving to better understand how contextual factors influence community reintegration among service members injured in the GWOT. The next sections in this introduction will provide a rationale for the study

including a description of the (a) background of the research, (b) problem statement, (c) research questions, and (d) conceptual and theoretical frameworks driving the study.

Background

Casualties have been vast during the most recent United States combat missions, including OEF, OIF, and OND. Reports from the Department of Defense (2013) indicate that 6,716 military deaths in the GWOT (2,241 in OEF, 4,409 in OIF, and 66 in OND). The largest numbers of deaths occur among males, under the age of 30, serving in the Army, and in active duty. Not surprisingly, the same demographic profile is true for service members wounded in action. However, the total numbers of service members who have been wounded are much higher than those who have been killed including 18,950 in OEF, 31,927 in OIF, and 295 in OND (Department of Defense, 2013).

Some of the most traumatic injuries sustained during active duty include brain injury (BI), major limb loss, severe orthopedic injuries, spinal cord injury (SCI), emotional and psychological adjustment problems (e.g., post-traumatic stress disorder (PTSD) and depression), and polytrauma (Fitzpatrick & Pasquina, 2010; Hoge, Castro, Messer, & McGurk, 2004; Lapierre, Schwegler, & LaBauve, 2007; Sandberg, Bush, & Martin, 2009; “Wounded Warriors ,” 2009). These traumatic physical and psychological injuries often lead to complications with psychosocial adjustment once injured service members attempt to return back into home and society as a civilian.

To help with the transition from being in the military to being a civilian with a disability, the Department of Veterans Affairs (VA) and other organizations have established physical and mental health rehabilitation services for injured service

members. These services are designed to assist them with increasing their independent living and adaptive skills necessary for successful transition back into military service (if possible) or return to a civilian lifestyle. The adjustment process that accompanies these injuries present unique challenges for the injured service members and rehabilitation personnel and as they progress through various types of treatment services available, such as acute care, physical and cognitive rehabilitation, mental health services, transitional programs, and community programs (Doyle & Peterson, 2005; Fitzpatrick & Pasquina, 2010; Resnik & Allen, 2007). One therapeutic service available to many injured service members in rehabilitation and community-based programs is recreational therapy. Many recreation and recreational therapy programs are designed to assist injured service members with overcoming challenges related to physical and psychological injury to regain community engagement and an active and healthy lifestyle after injury. (Hawkins, Cory, & Crowe, 2011; Lundberg, Bennett, & Smith, 2011; US Department of Veterans Affairs, 2011; Van Puymbroeck & Lundberg, 2011; Wilder, Craig, Sable, & Gravink, 2011).

For many service members whether injured or not, the transition from being in the military to being a civilian proves to be difficult. This transition is especially difficult for injured service members. An individual with significant injuries has to adjust to his/her impairments as well as his/her home, community, and other social environments. These injuries often result in unforeseen challenges and lifestyle changes as demonstrated by: (a) difficulties with family life (Bocarro & Sable, 2003); (b) problems with transportation and accessibility (Wehman et al., 1999); (c) inability to return to work (Corrigan et al.,

2007); and (d) decreased involvement in physical activity, sport, recreation, and leisure activities (Levins, Redenbach, & Dyck, 2004; Tasiemski, Bergström, Savic, & Gardner, 2000; Tasiemski, Kennedy, & Gardner, 2006). These life changes are likely influenced by a number of ecological factors surrounding the service member, such as the quality and amount of social support available, political and cultural support systems, accessibility of physical environments, as well as personal influences such as motivation, confidence, and willingness to adjust to a new lifestyle (Bandura, 2001; World Health Organization, 2001a). Therefore, it is necessary to understand the unique contexts in which the transition from military service to civilian life takes place.

Problem Statement

Community reintegration after injury during military service can be challenging for the thousands of service members who have been injured during the GWOT. Although research studies have reported the risk of poor reintegration after military service, little is known about the context in which injured service members make this transition. This dissertation will address this gap in the literature and better understand the contextual influences, both personal and environmental, related to participating in home and community activities (i.e., community reintegration) among service members who were injured in the GWOT.

Research Questions

The study will answer the following primary research questions to better understand the context of community reintegration after injury:

Mixed Methods Question: To what extent do contextual factors (e.g., personal and environmental) influence community reintegration of injured service members?

Quantitative Question: Which contextual factors are significantly related to community reintegration among injured service members?

Qualitative Question: How does the influence of contextual factors differ among injured service members with different levels of community reintegration?

Conceptual Framework

Since injured service members vary in the severity of their injuries, diagnostic classifications such as TBI, amputation, SCI, or polytrauma do not adequately describe their impairments or the factors that influence disability. A framework that classifies severity of impairment and contextual factors of disability is the World Health Organization's (WHO) International Classification of Functioning, Disability, and Health (WHO, 2001a). The ICF will serve as the conceptual framework in this study.

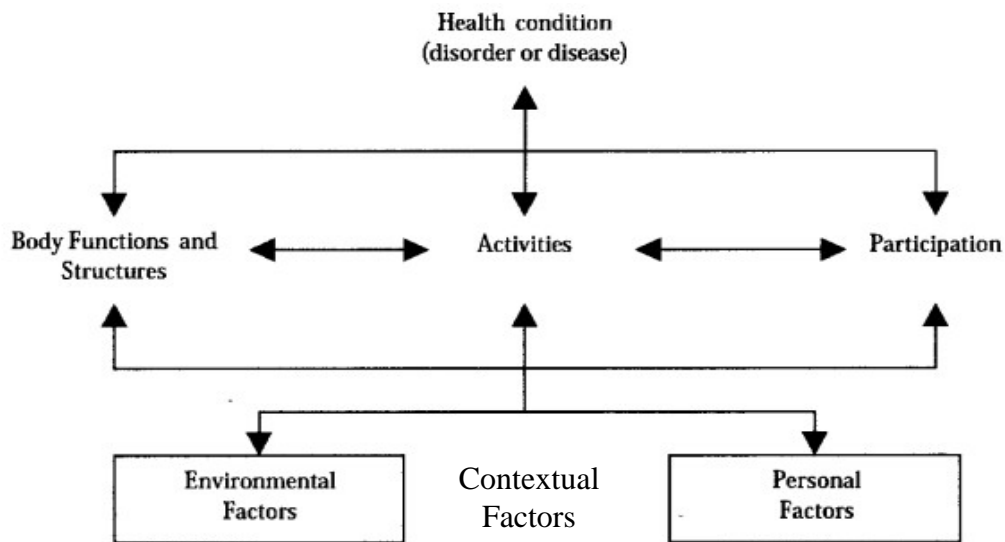
International Classification of Functioning, Disability, and Health (ICF).

The ICF was developed in 2001 to supplement the International Classification of Disability version 10 which provides an etiological approach to disability classification and does not identify the various impacts of impairment(s) and disability. The ICF attempts to “encompass all aspects of human health and some health-relevant components of well-being and describes them in terms of *health domains* and *health-related domains*” (WHO, 2001b, p. 8). In this sense the ICF is applicable to all people, not only persons with disabilities. The ICF places those health-related domains into two broad categories: (a) functioning and disability and (b) contextual factors. Functioning

and disability includes two components: (a) body function and structure and (b) activities and participation. Contextual factors include two components as well: (a) environmental factors and (b) personal factors (WHO, 2001a) (see Figure 1.1).

Figure 1.1

The International Classification of Functioning, Disability and Health Interaction Model



Note: From World Health Organization (2001). *The International Classification of Functioning, Disability and Health*. Geneva, Switzerland. World Health Organization, p. 18.

Body functions and structures refer to the anatomical and physiological functioning of individuals. Activities and participation refers to a task or action and a person’s ability to execute that task or action in a life situation. Contextual factors (i.e., personal and environmental) refer to the “physical, social and attitudinal environment in which people live and conduct their lives” (WHO, 2001b, p. 12). The WHO has not fully determined personal factors to include in the ICF; therefore, environmental factors are the primary components within the contextual factors portion of the model at this time. As

discussed later in the theoretical framework section, Social Cognitive Theory will aid in better understanding the role of personal factors.

This study will utilize the ICF's environmental factors to study the influence of the environment on the person's ability to function and participate in various home and community activities. The environmental factors are conceptualized in the five domains: (a) products and technology, (b) natural environment and human-made changes to environment, (c) support and relationships, (d) attitudes, and (e) services, systems and policies. Each domain is broken down into a series of components that further conceptualize the domain. A sample of the environmental domains and their components are included in Table 1.1.

Table 1.1

Sample of the Domains and Components in ICF's Environmental Taxonomy

Natural environment and human-made changes to environment	Attitudes
<ul style="list-style-type: none"> -Physical geography -Climate -Natural Events -Human-caused events -Light -Sound -Natural environment and human-made changes to environment, other specified 	<ul style="list-style-type: none"> -Individual attitudes of immediate family members -Individual attitudes of friends -Individual attitudes of acquaintances, peers colleagues, neighbors and community members -Individual attitudes of people in positions of authority -Individual attitudes of strangers -Individual attitudes of health professionals -Societal attitudes

Note: Adapted from World Health Organization (2001). *The International Classification of Functioning, Disability and Health*. Geneva, Switzerland. World Health Organization, p. 18.

ICF also calls for each environmental component to be classified as either a *facilitator* or *barrier* of functioning and participation in activity. A facilitator is a component that assists in participation, whereas a barrier is a component that hinders participation. Identifying the environmental components as facilitators and barriers will be critical in the research design and data analyses to understand how environmental components affect individuals' ability to reintegrate into their community.

Previous researchers have demonstrated the usefulness of the ICF when studying injured service members. For example, Resnik and Allen (2007) used the nine domains of the activities and participation section of the ICF as their coding scheme for their interviews among injured service members, their family members, and clinicians who have provided treatment. Using the findings from the qualitative study, researchers developed a measure of community reintegration of injured service members (CRIS) (Resnik et al., 2009).

Although these studies have conceptualized community reintegration among injured service members using the ICF, they did not incorporate the contextual factors of the ICF in their research. Therefore, using the ICF's framework of environmental factors will inform how physical, social, and attitudinal environments effect injured service members.

Theoretical Framework

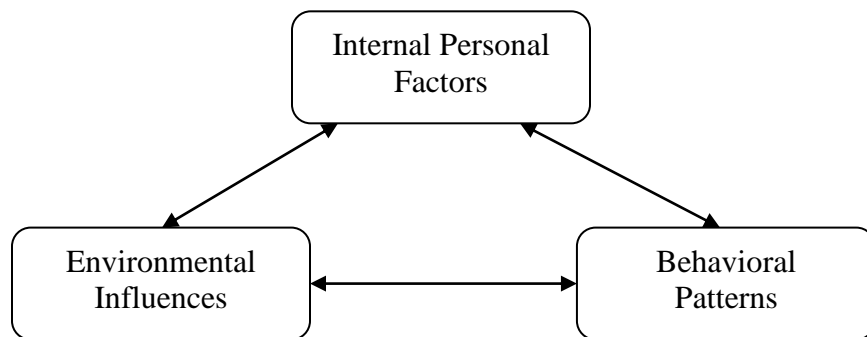
Given the limitation that the ICF's framework has not fully conceptualized personal factors, an additional framework is necessary to understand these personal factors and complete the context of personal functioning and participation in activities.

Social Cognitive Theory will serve as the theoretical framework for the study to provide a better understanding of how personal factors influence injured service members with reintegration.

Social Cognitive Theory (SCT). Originally developed by Bandura (1986), SCT is a psychosocial theory that explains motivation by placing the person and the person’s behavior in the context of social environments. SCT hypothesizes that motivation for behavior change is influenced through interactions between three factors: (a) personal factors, (b) environmental influences, and (c) behaviors. Bandura (2001) states, “In this model of reciprocal causality, internal personal factors in the form of cognitive, affective, and biological events, behavioral patterns, and environmental influences all operate as interacting determinants that influence one another bidirectionally” (p. 14-15). Figure 1.2 illustrates the reciprocal relationships between the factors.

Figure 1.2

Social Cognitive Theory Model



Personal factors are operationalized into the following concepts:

- (a) *Personal characteristics*- demographics, personality, cognitive factors, motivation, and skill;

- (b) *Emotional arousing/coping*- the person's ability to deal with and respond to emotional and arousing stimuli (e.g., stress, anxiety);
- (c) *Behavioral capacity*- the person's knowledge and skills needed to perform a behavior;
- (d) *Self-efficacy*- a person's belief that they have the skills and ability to take control of a circumstance and overcome challenges as it relates to a specific behavior, not a characteristic of a person's personality.
- (e) *Outcome expectations*- expected outcomes resulting from the person's efforts;
- (f) *Self-regulation*- the person's ability to control and manage his behaviors (e.g., goal setting, self-monitoring, self-rewarding);
- (g) *Observational learning*- learning behavior by observing others' behavior (i.e., modeling) or learning from previous experiences; and
- (h) *Reinforcement*- learning consequences of a behavior that effect the probability of a behavior happening again (e.g., rewards for behavior) (Redding, Rossi, Rossi, Velicer, & Prochaska, 2000).

In SCT, self-efficacy is the primary concept representing internal personal factors. Self-efficacy influences the individual's pessimism or optimism, decisions on whether to undertake challenges, effort to overcome challenges, and perception of failure or success as motivating or demoralizing (i.e., self-enhancing or self-defeating) (Bandura, 2001, p.10). An individual who believes he or she has the skills, confidence, and control to overcome a challenge will be more likely to make efforts to overcome the challenge and sustain those efforts (i.e., self-regulation). Likewise, the individual with high efficacy beliefs may face similar challenges as his peers but is more psychologically adept at overcoming those challenges, thus making him more likely to attain his goals. An individual with poor self-efficacy is likely to have the opposite effect, such as self-defeating thoughts and behaviors, low self-regulation, and low outcome expectations.

Another key aspect of SCT is the role of the environment. SCT refers to the environment as the social, physical, cultural, economic, or political environments that surround the individual (Redding et al., 2000). Similar to ICF, SCT acknowledges that these environmental influences present as *enablers* of behavior change or *constraints* to behavior change. SCT primarily refers to sociostructural environments (e.g., socio-economic status, family structure, education level) which may have an impact on the individual's efficacy, aspirations, personal standards, and affect (Bandura, 2001, p.15). Likewise, efficacy may lead to behaviors that influence these sociostructural environments. An individual who is self-efficacious is more likely to choose and manipulate their environments in ways that best support her chosen endeavors. According to SCT, "Thus, by choosing and shaping their environments, people can have a hand in what they become" (Bandura, 2001, p.11).

Relationship between ICF and SCT

The ICF will be used in conjunction with SCT to create a more comprehensive understanding of the contextual factors that influence behavior (e.g., participation in home and community activities). Using these frameworks together will assist with classifying and understanding how internal personal forces and external environments affect injured service members. The ICF and SCT overlap and complement each other in three ways. Figure 1.3 illustrates the relationships between the ICF and SCT and how they will be combined to provide a better understanding of environmental and personal factors.

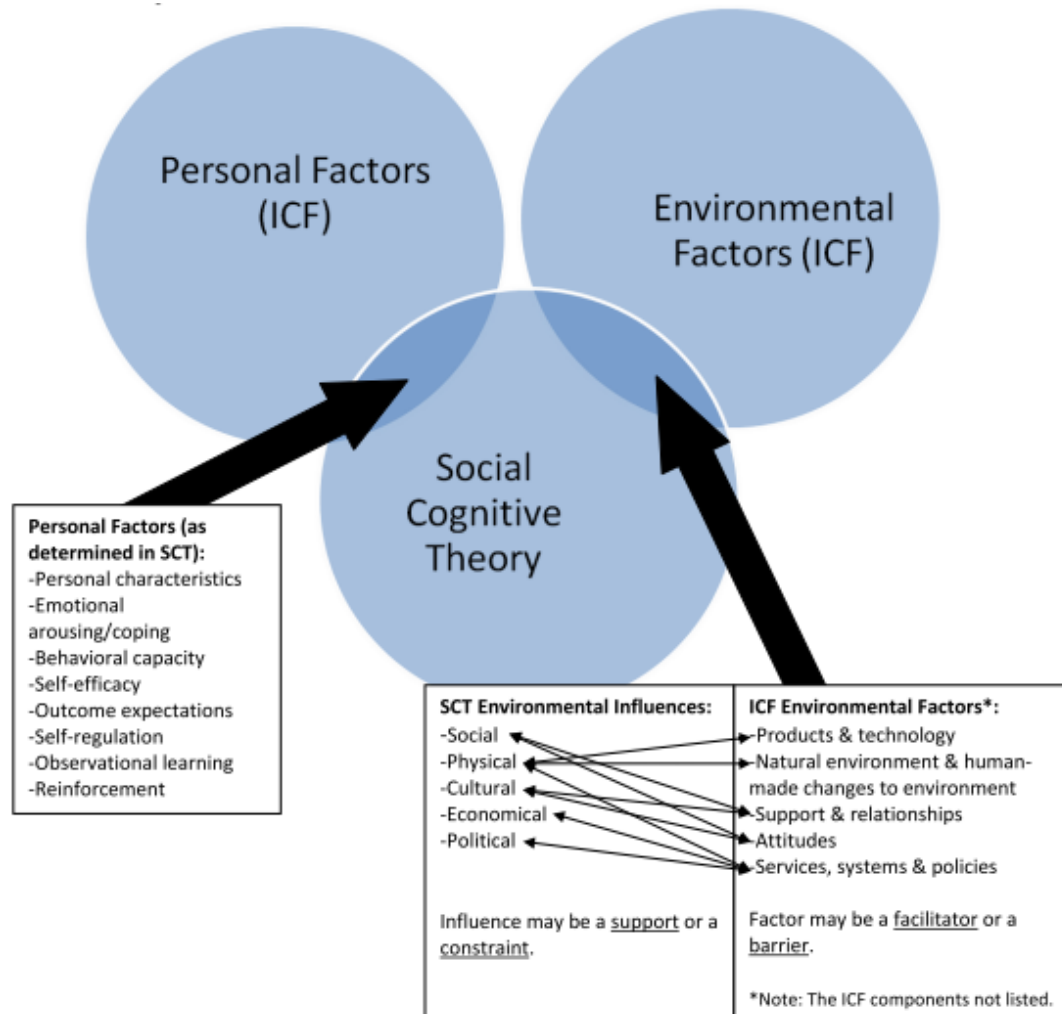
First, the SCT helps with defining personal factors within the ICF. One limitation of the ICF is that the WHO has not yet classified personal factors and components within the framework. Instead, the WHO gives suggestions on what these factors might include, such as “the particular background of an individual’s life and living, and comprise features of the individual that are not part of a health condition or health states” (WHO, 2001b, p. 23). These factors may include demographic variables, coping styles, past or current experiences, behavior patterns, and other psychological characteristics. SCT is very compatible to the ICF because the SCT has developed a number of personal factors that help inform the operationalization of the personal factors within the ICF (see lower left corner of Figure 1.3).

Second, the WHO has fully developed environmental domains and subsequent components in the ICF which aides in operationalizing the environmental influences in SCT. Therefore, the ICF complements the SCT due to the lack of specification in the SCT’s environmental influences. The overlap between the ICF’s environmental factors and SCT’s environmental influences is illustrated in the lower right corner Figure 1.3.

Third, the SCT and ICF both recognize that the environment may present as a reinforcer or a discourager of behavior. The SCT uses the terms “support” or “constraint” whereas the ICF uses the terms “facilitator” or “barriers.” Despite these small rhetorical differences, the frameworks are in agreement on the effects the environment has on the person.

Figure 1.3

Graphical Relationship between ICF and SCT



Conclusion

In this introduction, a rationale for studying the contextual influences of community reintegration among injured service members was discussed and the perspectives of the ICF as the conceptual framework and the SCT as the theoretical framework were introduced as guiding lens' to study their reintegration experiences.

List of Definitions and Abbreviations

- Community reintegration: An individual's ability to participate in home activities, social activities, and productive activities as well as their perception of their ability to integrate.
- Personal Factors: The particular background of an individual's life and living, and comprise features of the individual that are not part of a health condition or health states (WHO, 2001b, p. 23). These include the cognitive and affective background of the individual (e.g., self-efficacy, self-regulation).
- Environmental Factors: The physical, social and attitudinal environment in which people live and conduct their lives (WHO, 2001b, p. 12)
- GWOT: Global War on Terrorism
- OEF: Operation Enduring Freedom
- OIF: Operation Iraqi Freedom
- OND: Operation New Dawn
- CRIS: Community Reintegration of Injured Service Members measure
- SWP: Satisfaction with Participation scale; a sub-scale of CRIS; used as a subjective measure of community reintegration
- EOP: Extent of Participation scale; a sub-scale of CRIS; used as an objective measure of community reintegration
- NGSE: New General Self-Efficacy scale; used as a measure of personal factors
- VA: Department of Veteran's Affairs

CHAPTER 2

LITERATURE REVIEW

This chapter will provide an in-depth review of the literature surrounding the topics of (a) casualty information from the GWOT, (b) physical and psychological injuries associated with the GWOT and their effects on the individual, (c) rehabilitation after injury, (d) community reintegration, and (e) the influence of environmental and personal factors on individuals with traumatic injuries.

Injury among Injured Military Service Members

Traumatic injury among military service members is a sobering and unfortunate artifact of a nation at war. The United States (US) has been involved in two major conflicts since 2001 with OEF in Afghanistan (beginning October 7, 2001) and OIF in Iraq (beginning March 20, 2003), now referred to as OND (beginning February 7, 2011). These conflicts and the rebuilding efforts that follow have left many service members and their loved ones to sustain the brunt of the violence that accompanies war. The consequence of violence is especially true among service members killed or wounded through their efforts in the war. As of July 8, 2013, the Department of Defense (2013) reports that 6,716 service members have been killed and 51,172 have been injured during the GWOT. Of these personnel, men under the age of 30 account for the vast majority of those injured or killed (see Table 2.1). Despite the large number of deaths, the conflicts in Iraq and Afghanistan have resulted in many more service members surviving their injuries when compared to previous wars such as the Vietnam War and World War II (Holcomb et al., 2006). Up to 90% of injured service members are surviving their

injuries compared to much lower percentages in previous wars (Department of Defense, 2013; Gawande, 2004). The increased survival rate has been attributed to improvements in body armor, advancements in emergency medical services, and immediate access to life saving medical attention to wounded service members in the field (Fitzpatrick & Pasquina, 2010).

Table 2.1

Casualty Summary

	Operation Enduring Freedom	Operation Iraqi Freedom	Operation New Dawn
Deaths	2,241	4,409	66
% ≤ 30 years old	75.9%	78.9%	77.2%
% male	97.9%	97.5%	100%
Wounded in action	18,950	31,927	295
% ≤ 30 years old	82.7%	76.4%	78.6%
% male	98.0%	97.6%	95.9%

Note: Statistics include casualties through July 8, 2013.

The improvement in survival rate is a welcomed statistic; however, more service members are returning with traumatic physical, emotional, and psychological injuries. Injury type and severity varies greatly among injured service members. Many injured service members have both physical and psychological injuries due to the circumstances associated with war that cause the injuries. The following sections provide an in-depth review of the physical and psychological injuries most common in the GWOT.

Physical injuries. Blast injuries account for the largest number of injuries among service members during the recent combat operations in Iraq and Afghanistan. Blast injury is an overarching term that includes injuries from artillery, mortar shells, mines,

booby traps, aerial bombs, improvised explosive devices, and rocket-propelled grenades which account for approximately 90% of all casualties (Department of Defense, 2013; Sayer et al., 2008). Blast injuries can include many categories of physical injuries including limb loss, bone fractures, sensory impairments, burns, SCI, crushing injuries, BI, and polytrauma.

Polytrauma has received much attention as it is highly prevalent in the GWOT. Polytrauma can be defined as a combination of injuries that affect at least two body regions of which one of the injuries was life threatening and resulted in multiple impairments or disability (US Department of VA, 2009). Due to the nature of blast injuries, polytrauma is most commonly associated with BI, also highly prevalent in the GWOT. This combination of injuries creates a complexity of impairments that are challenging to rehabilitate. Since polytrauma is defined by multiple injuries, an understanding of other individual categories of injury will provide a better understanding of how polytrauma affects the person.

BI has been considered the signature injury in the GWOT (Fitzpatrick & Pasquina, 2010; Sandberg et al., 2009; Sayer et al., 2008). Any injury to the brain can affect a person's physical, cognitive, and psychological functioning dependent on the severity of the injury. Both closed and open BIs are prevalent during war and can vary in severity. Closed BIs are likely to result from concussion injuries from blast waves or impact injuries that do not penetrate the skull. Open brain injuries are likely to occur from shrapnel from bombs, artillery, or other outside object that strikes the skull and brain. Depending on the severity of damage to the brain, complications can include

seizure, loss of consciousness, spasticity, loss of physical functioning such as balance and functional strength, loss of memory, problems with attention span, anxiety, and depression (Fitzpatrick & Pasquina, 2010).

SCI is also a common injury among service members in the GWOT and can result from vehicular accidents, blasts, and gunshot wounds that damage the spinal cord (Fitzpatrick & Pasquina, 2010). These injuries result in paresis (i.e., incomplete impairment) or paralysis (i.e., complete impairment) below the level of injury and can affect muscular and sensory/sensation functioning. Typically injuries in the thoracic or lower region of the spine often result in paraplegia (i.e., impairment in two extremities, typically the trunk and legs), whereas injury to the thoracic or higher region of the spine often result in quadriplegia (i.e., impairment in all four extremities). These impairments lead to difficulty with ambulation, activities of daily living, bowel and bladder functioning, increased risk for autonomic dysreflexia, and adjustment to disability.

Limb loss is another injury common in the GWOT. The causes of injury are similar to BI and SCI where trauma from gunshot or bomb explosion causes immediate amputation or leads to post-injury complications resulting in medical amputation (Fitzpatrick & Pasquina, 2010). Limb loss includes amputation of the leg(s) above or below the knee and amputation of the arm(s) above or below the elbow. In addition, amputation of phalanges or portions of the foot or hand are common. Prosthetics are often used as assistive devices to replace the missing limb depending on the condition of the residual limb (Fitzpatrick & Pasquina, 2010; Resnik, 2008). Impairments tend to

include difficulty with ambulation, adjustment to limb loss, activities of daily living, and skin breakdown.

The impairments associated with these physical injuries and other injuries are likely to affect injured service members' ability to reintegrate into the community after war and rehabilitation. Service members with polytrauma are likely to have the most notable challenges to reintegration because of the convergence of impairments and disability that result from sustaining multiple injuries. Physical impairments can limit a person's ability of function in day-to-day life such as ambulation, accessing transportation, other activities of daily living (e.g., hygiene, dressing, feeding), participating in recreation and leisure pursuits, employment, social interactions, and being physically active. However, these limitations can depend on the type and severity of the injuries. Research has indicated that persons with SCI are more likely to lose employment after injury (Tasiemski et al., 2000), have reduced financial support (National SCI Statistical Center, 2012), are less likely to participate in or stop sports and recreation activities (Tasiemski et al., 2006; Tasiemski, Kennedy, Gardner, & Taylor, 2005), and have the potential for dissolution of relationships with significant others (Bocarro & Sable, 2003). Issues with community reintegration of persons with BI often relate to level of functional independence, social integration with others, caregiver burden, satisfaction with quality of life, productivity (i.e., employment, recreation), transportation, and ability to drive (McCabe et al., 2007). Some factors that have been shown to influence satisfaction with community reintegration among individuals with amputations include mobility, self-care, work, recreation, social activities, relationships

with others, and perception of self (Nissen & Newman, 1992). All of these factors influence the person's ability to reintegrate into their communities after injury in some form. It is likely that many of these factors are not exclusive to BI and amputation and may also be relevant to individuals with other types of injuries. It is important to note that these studies do not focus on injured service members and the associations between these issues and injured service members are assumed.

Psychological injuries. The mental health among service members has been an emerging topic in the GWOT (Walker, 2010). Mental health disorders often accompany personal traumatic injury or witnessing traumatic events during combat duty.

Psychological injuries may be the most prevalent injury associated with service members who have returned from the GWOT, especially those who have served in Iraq. In 2006, Hoge et al. estimated that 19.1% of service members returning from Iraq reported a mental health problem, compared to 11.3% returning from Afghanistan and 8.5% from other combat areas. Similar numbers have also been reported in a 2008 report (Tanielian & Jaycox, 2008). Although mental health screening procedures are implemented after deployment, less than 10% of service members who received mental health treatment were referred through screening procedures (Hoge, 2006). However, the validity of mental health problem estimates in the military is questionable. Psychological injuries are commonly undiagnosed due to frequently delayed onset of psychological injury symptoms, symptoms that are not always observable, and the stigma of reporting mental health issues in the military (Hoge et al., 2004; Sandberg et al., 2009; Seal et al., 2008).

Many service members fear that reporting mental health issues may delay their return home or, conversely, disallow them to return to service.

Signature mental health disorders from the GWOT include PTSD, depression, and generalized anxiety disorder. These disorders can manifest into comorbid issues such as alcohol and drug abuse, suicidal ideations and attempts, and difficulty with attaining and maintaining social relationships if not addressed appropriately. PTSD is a major issue among physically injured and non-physically injured service members in the GWOT as they commonly experience trauma in some form during their service. These traumatic experiences may include personal injury, witnessing comrades being injured or killed, and being in hostile war environments. PTSD is characterized by hypervigilance, upsetting memories of the event, jumpiness, and trouble sleeping (US Department of VA, 2012a). Symptoms of depression may include sadness, poor mood, loss of interest, and feeling hopeless. These symptoms vary day by day but are more present than not for two weeks or longer (US Department of VA, 2012b). Generalized anxiety disorder presents symptoms of excessive worry or anxiety about large and small issues, difficulty concentrating due to worry, irritability, muscle tension, and sleep difficulty. These symptoms usually last for at least six months or longer before diagnosis (US Department of VA, 2012c). Given the time criteria for diagnosis, it is reasonable to understand how current estimations of prevalence of psychological disorders may not be accurate.

Although the emotional symptoms of psychological injury are debilitating, the social implications of psychological injury have the potential to greatly impact day-to-day functioning and community reintegration. As the presence of mental health issues

increase, so does the risk of social exclusion (Walker, 2010) as service members with a mental health disorder may exhibit limited ability to have meaningful and necessary social connections with others. These limitations hinder their ability to obtain and maintain friends, romantic relationships, as well as professional relationships (e.g., managers, co-workers). It is likely that these limited social interactions and relationships will likely result in limited integration in the community. No studies were found that identified clear links between community reintegration and mental health disorders among injured service members; therefore, these social limitations are speculative in nature. Yet, Resnik and Allen (2007) found that most injured veterans in their sample reported problems in at least one or more areas of community reintegration (e.g., learning and applying knowledge; general tasks and demands; communication; mobility; self-care; major life areas; domestic life; interpersonal interactions; community, social, and civic life) concluded from their findings that injured service members are at a high risk of poor reintegration given the prevalence of BI and PTSD. Therefore mental health and psychological disorders should be taken into consideration when investigating community reintegration after military service.

Rehabilitation Services

Many injured men and women returning from war require medical and mental health services provided through a variety of rehabilitation services. The US VA system provides the bulk of these medical programs. For example, the VA system has developed many interdisciplinary rehabilitation programs specially designed to assist service members with polytraumatic injury including five BI/polytrauma regional rehabilitation

centers, four polytrauma transitional rehabilitation programs, 18 polytrauma network sites, and 82 polytrauma support clinic teams across the US (US Department of VA, 2012d). Several of the rehabilitation services include rehabilitation physiatry (i.e., medical doctors specializing in physical rehabilitation), social work, nursing, prosthetics/orthotics, physical therapy, occupational therapy, speech and language pathology, recreation therapy, and psychology (US Department of VA, 2011). These types of services are similar to rehabilitation services available for civilians, although the availability of services to the military may differ from civilian rehabilitation centers.

The primary outcomes of rehabilitation for injured service members are to assist with their return to active duty, maintain their social and familial roles, and return them to their home, vocational, and community life at levels consistent prior to their injury (Trudel et al., 2007). Therefore, community reintegration of the injured service member is a top priority in rehabilitation services. More specific outcomes of rehabilitation include improvement in independent living skills relating to physical, cognitive, social, and psychological functioning (e.g., improve mobility/ambulation, increased independence in activities of daily living). Attainment of these outcomes is particularly difficult for service members with extensive injuries and disabilities (Trudel et al., 2007).

Overall, the existing literature reporting rehabilitation outcomes among injured service members is scant compared to literature on rehabilitation outcomes among civilians. However, a report from the VA Inspector General (2008) indicated that service members with BI in inpatient rehabilitation had very similar improvements in functional outcomes as civilians with BI. To support this notion, an analysis of outcomes in four

VA polytrauma rehabilitation centers indicated that injured service members made very similar improvements in cognitive and motor function compared to civilians with traumatic injury (Sayer et al., 2008). Among civilians with BI, functional abilities significantly improve during rehabilitation depending upon severity of cognitive and motor impairment at admission, length of stay, and time between onset of injury and beginning rehabilitation services (Bode & Heinemann, 2002; Kunik, Flowers, & Kazanjian, 2006). These findings may be applicable to service members since BI is one of the most common injuries among service members (Sigford, 2008).

Community Reintegration

Before community reintegration after rehabilitation is discussed, community reintegration needs to be defined as it relates to this study. Community reintegration has been defined in different ways, including objective and subjective definitions (Minnes et al., 2003). Objectively, community reintegration can be described as how often and how independently the person can *participate* in daily activities such as: (a) home activity, (b) social activity, and (c) productive activity (e.g., work, school, volunteering). Subjectively, community reintegration can be described as the person's *perception* of their ability to integrate into their community, not actual participation. It has been recommended that community reintegration be measured both objectively and subjectively to gain a more accurate understanding of reintegration (Minnes et al., 2003), therefore this study will address community reintegration through objective and subjective means.

After rehabilitation many injured service members continue to have significant disabilities and often require long-term assistance (e.g., transitional programs, outpatient therapeutic services) with transitioning back into the community, especially those with BI (US Department of VA, 2009). Hence, the severity of their impairments and disabilities often affect their ability to successfully reintegrate into their home and community after rehabilitation without supportive services. Among service members who have received medical care in the VA system, approximately 40% reported some to extreme difficulty with their transition to civilian life (Sayer et al., 2010). More specifically, 49% expressed difficulty with community involvement, 35 to 49% reported limited productivity, 28 to 45% reported problems with social relations including divorce or separation, 31% reported problems with substance abuse, and 57% reported difficulty with anger control. Service members who were probable to have PTSD were significantly more likely to report difficulty in many of the categories. Since many service members recognized and reported problems with their transition into civilian and community life, 96% reported an interest in receiving treatment services to help with reintegrating (Sayer et al., 2010). Although the findings from Sayer et al. (2010) shed light on problems with reintegrating among a larger portion of service members, it is important to understand how individuals with more severe injuries differ in their ability to engage in daily and community activities.

Among civilians, it is reported that persons with BI fluctuate in their productivity after rehabilitation such as participating in: (a) home activities, (b) employment, (c) volunteer activities, and (d) educational endeavors (McCabe et al., 2007; Whiteneck,

Gerhart, & Cusick, 2004). A person's ability to participate in these types of activities may depend upon: (a) the rehabilitation program attended (McCabe et al., 2007; Sarajuuri et al., 2005), (b) severity of injury (McCabe et al., 2007), (c) years after injury (Gary et al., 2009), (d) race (Gary et al., 2009), and (e) gender (Corrigan et al., 2007).

Participation in recreation and leisure is also impacted after traumatic injury such as: (a) dramatic decreases in pre-morbid leisure activity participation, (b) decreased satisfaction with leisure, and (c) a shift towards more solitary, home-based, and physically inactive leisure activities (Schönherr, Groothoff, Mulder, & Eisma, 2005; Wise, 2002).

Much of the literature related to community reentry has been limited to the civilian population. A few studies have attempted to understand community reintegration among injured service members injured in the GWOT. Resnik and Allen (2007) performed a qualitative study using specific components from the ICF's nine activities and participation domains as a framework for analysis of interview data. Researchers were able to code findings into each of the nine domains relative to community reentry. The nine domains for their study included: (a) learning and applying knowledge, (b) general tasks and demands, (c) communication, (d) mobility, (e) self-care, (f) domestic life, (g) interpersonal interactions, (h) major life areas, and (i) community, social, and civic life. Participants reported challenges that fit within each of activities and participation domains among service members with a variety of injuries. Researchers concluded that "a substantial number of veterans are at risk of poor community reintegration" (p.1004). Using these findings, Resnik, Plow, and Jette (2009) developed the Community Reintegration of Injured Service Members (CRIS), a measure of

community reintegration specifically designed for the assessment of injured service members. During their initial evaluation of the CRIS, researchers noted that injured service members with PTSD, substance abuse, depression, or other mental health disorder scored lower on the composite score on the CRIS (i.e., poorer community reintegration) than their counterparts without mental health disorders. Specifically, researchers noted that scores on the Satisfaction with Participation scale were lower for veterans with depression than veterans who did not have depression (Resnik, Plow, & Jette, 2009). In a following study, Resnik et al. (2011) tested the CRIS with a sample of more severely injured service members. Analyses further indicated that service members with BI and PTSD scored significantly lower on all three CRIS subscales than those without BI and PTSD. Service members with depression scored significantly lower on the Extent of Participation and Satisfaction with Participation subscales, but not significantly lower on the Perceived Limitations subscale (Resnik et al., 2011). Although researchers have operationalized community reintegration, the factors influencing community reintegration among injured service members is unknown. To date, there have been no studies exploring and identifying the influence of contextual factors and their impact on the ability of injured service members to reintegrate into their home and communities (Resnik et al., 2012).

Influence of Environmental Factors

Environmental factors have been conceptualized in the literature as evidenced by their representation in the ICF and SCT. The ICF defines the environment as “the physical, social and attitudinal environment in which people live and conduct their lives”

(WHO, 2001a, p.22). SCT simply defines the environment as the social, physical, cultural, economic, or political environments outside of the person (Bandura, 2001; Redding, Rossi, Rossi, Velicer, & Prochaska, 2000). However, research studying the environmental influences on behavior of individuals with disabilities has been limited. Researchers have noted that the environment may serve as a moderating, confounding, or mediating factor (Wang, 2006). In other words, the environment can influence (i.e., moderate) an individual's behavior by providing support (i.e., mediate) or serving as a barrier (i.e., confound). For instance, there is a body of evidence suggesting that social support among injured service members plays a key role in buffering from the psychological impacts of combat and enhances quality of life. Yazicioglu et al (2006) reported that social support has a greater influence on quality of life than other variables such as sociodemographics and medical support among injured service members. Specifically, social support that was empathetic, informational, and reassuring was the most beneficial. Social support through connections with family, friends, and fellow service members has also been shown to act as a buffer against suicide in the military (Bryan, Kanzler, Durham, West, & Greene, 2010). Preferences of mental health services post-deployment indicate the importance of social support as well. Khaylis, Polusny, Erbes, Gewirtz, and Rath (2011) reported that family-based interventions were the preferred ways to address mental health and family health issues among a sample of National Guard soldiers who demonstrated symptoms of PTSD and other mental health symptoms. The importance of social supports and social connections among injured service members has been demonstrated during adaptive recreation and sport events.

Hawkins, Cory, and Crowe (2011) reported that social support and social comparison with other service members who have similar or more severe injuries motivated them for personal improvement and continued participation in recreation and sport activities. Mowatt and Bennett (2011) also supported the presence and importance of camaraderie between veterans and service members during a therapeutic fly fishing program. Social support in the form of leadership also contributes to buffering stress. Britt, Davidson, Bliese, and Castro (2004) summarized that the influence of leadership in the military can act as a moderator to reduce negative effects of stress associated with combat missions of individual soldiers and units. As this literature indicates, environmental factors in the various forms of social support can drastically assist service members in many aspects of their lives. Yet, no studies have reported the influence of social support on injured service members' community reintegration.

In addition to being a support, a person's environment can also serve as a barrier. For instance, Whiteneck et al. (2004) performed a study to determine the degree to which environmental factors served as a barrier to participation and life satisfaction among civilians with SCI. Authors reported the most influential barriers included: (a) the natural environment, (b) the availability of transportation, (c) the need for help at home, (d) the availability of healthcare, and (e) government policy (Whiteneck et al., 2004). More recently, Lysack, Komanecky, Kabel, Cross, and Neufeld (2007) identified similar environmental factors that influenced community reintegration in a civilian sample with SCI. The top five barriers included: (a) the natural environment, (b) government policies, (c) transportation, (d) availability of health care services, and (e) attitudes at home. This

study found a negative correlation between environmental barrier scores and community integration indicating that participants who report fewer environmental barriers are likely to better integrated into their community. However, these studies are limited to civilian samples. It is unknown if injured service members also experience similar environmental barriers and to what extent these barriers may influence them. The effect of the environment may be different for injured service members as they tend to have different health care access and other governmental policies intended to support them, for example. Many authors have recognized the limitations in this area of research and the need to better understand how the environment influences both civilians and service members with traumatic injury (Lysack, Komanecky, Kabel, Cross, & Neufeld, 2007; Noreau & Boschen, 2010; Resnik et al., 2012; Wang, 2006; Whiteneck et al., 2004).

Influence of Personal Factors

A person's environment is not the single contributing factor to successful community reintegration after injury. As the ICF and SCT supports, the injured service member's personal agency must also be considered in addition to their social structures and other environments. The ICF defines personal factors as "the particular background of an individual's life and living, and comprise features of the individual that are not part of a health condition or health states" (WHO, 2001b, p. 23). SCT defines personal factors as the personal characteristics and beliefs of a person to which self-efficacy plays a vital role (Bandura, 2001). Since personal factors are not fully conceptualized in the ICF, little research has studied the influence of personal factors using ICF as a

framework. Therefore, the following section will summarize research using SCT with a focus on the role of personal factors and behaviors after traumatic life events.

Scores of research has been performed linking constructs within SCT to physical activity and other health promoting behaviors in a variety of populations (Murnan, Sharma, & Lin, 2006; Netz & Raviv, 2004; Rogers, Shah, Dunnington, & Greive, 2005; Schwarzer & Renner, 2000; Sharma, Wagner, & Wilkerson, 2005; Suminski & Hertz, 2003; Umstatted & Hallam, 2006). However, two articles were found that described the relationships between SCT and recovery from traumatic injury and other traumatic experiences. First, Martin Ginis et al. (2011) studied personal variables included in SCT and how these variables predicted participation in physical activity among individuals with SCI. Findings indicated that self-regulation (e.g., goal setting, planning) was the best predictor of physical activity. Self-efficacy did not have a significant, direct effect on physical activity. Authors attributed these findings to the nature of the disability in that individuals with SCI often have to plan ahead to negotiate various barriers prior to participating in physical activity. The regular routine of planning ahead may have hindered the significance of self-efficacy.

Benight and Bandura (2004) published a review of articles related to SCT, perceived self-efficacy, and recovery from traumatic experiences (e.g., military combat, natural disasters, assault). The authors summarized that perceived self-efficacy served as a mediating variable to posttraumatic recovery across multiple types of traumatic events. Generally speaking, individuals who believed they had the ability to take control over their lives were better at overcoming their situation instead of allowing their

circumstances direct their lives. In relation to the experience of severe war-related trauma (i.e., physical and psychological), service members with lower perceived efficacy presented more severe symptoms of emotional distress. Similar results were also noted in a number of studies of PTSD stemming from war-related trauma. Soldiers as well as civilians with PTSD exhibited a lower level of perceived efficacy in other areas of their lives, whereas soldiers and civilians without PTSD who had similar war-related experiences exhibited higher levels of perceived efficacy. Another important finding to note was the relationship between self-efficacy and redeployment after the initial traumatic experience. The authors reported that service members who received prompt frontline treatment and then redeployed to their combat unit had higher levels of self-efficacy and lower levels of emotional distress. However, Benight and Bandura acknowledged that the cause of this relationship is not clear, “In the military situation, however, the possibility cannot be ruled out that the outcomes accompanying different treatment partly reflect selection of who gets shipped back and who stays in combat” (p. 1135). Therefore, their findings support that additional investigation to clarify the relationship between self-efficacy and coping with traumatic events is necessary.

Personal factors including personality variables have also presented as buffers to military and deployment stress. Dolan and Adler (2006) noted the role that military hardiness (i.e., ability to adjust to, cope with, or improve from health problems) plays a role in controlling threats to mental health issues stemming from deployment. Results indicated that individuals who scored high on military hardiness and experienced high stressors during deployment, exhibited lower rates of depression post-deployment.

Similarly, Britt, Adler, and Bartone (2001) reported longitudinal evidence that suggests soldiers with high levels of personality hardiness found deeper meaning in their work which led to perceived benefits of deployment, despite the high levels of stress related to peacekeeping missions. As previous evidence suggests, social support, influence from authority, and personal factors play a significant role in assisting injured veterans with adjusting to combat and can act as a buffer from mental health problems.

The link between social support, personal factors, and community reentry post-deployment or post-injury has not been explored; therefore, this research will identify the links between socio-environmental factors and personal factors and their influence on community reintegration.

Summary

A considerable amount of literature has been written about traumatic injury, the rehabilitation process, community reintegration, and the influence of environmental and personal factors on activity participation after injury. However, there is a gap in the literature that addresses how injured service members reintegrate into their home and community and how contextual factors (e.g., personal and environmental) influence their transition. It is likely that contextual factors will have a great effect on how well injured service members are able to participate in their home and community (Resnik et al., 2012).

Therefore, this study will address the contextual factors affecting community reintegration among service members who have sustained single or multiple injuries while serving in the GWOT. In relation to the current study, the literature suggests that

injured veterans who report less frequent and lower impacts of environmental barriers as well as report supportive personal factors (e.g., high self-efficacy, strong motivation) will experience more successful community reintegration. However, these relationships are not yet known. Once a greater understanding of the influence of contextual factors are identified and explained, rehabilitation programs and community-based programs that work with injured service members can begin to tailor their program to better prepare their participants for active, engaged, and independent lifestyles after injury. The next section of this dissertation will provide a rationale for the use of mixed methods methodology accompanied by a description of the mixed methods employed for the study.

CHAPTER 3

METHOD

This chapter will describe the mixed methodological approach to the study and a description of the methods used in the quantitative phase and qualitative phase. The data mixing processes that occurred throughout the study for data collection and analysis are also described.

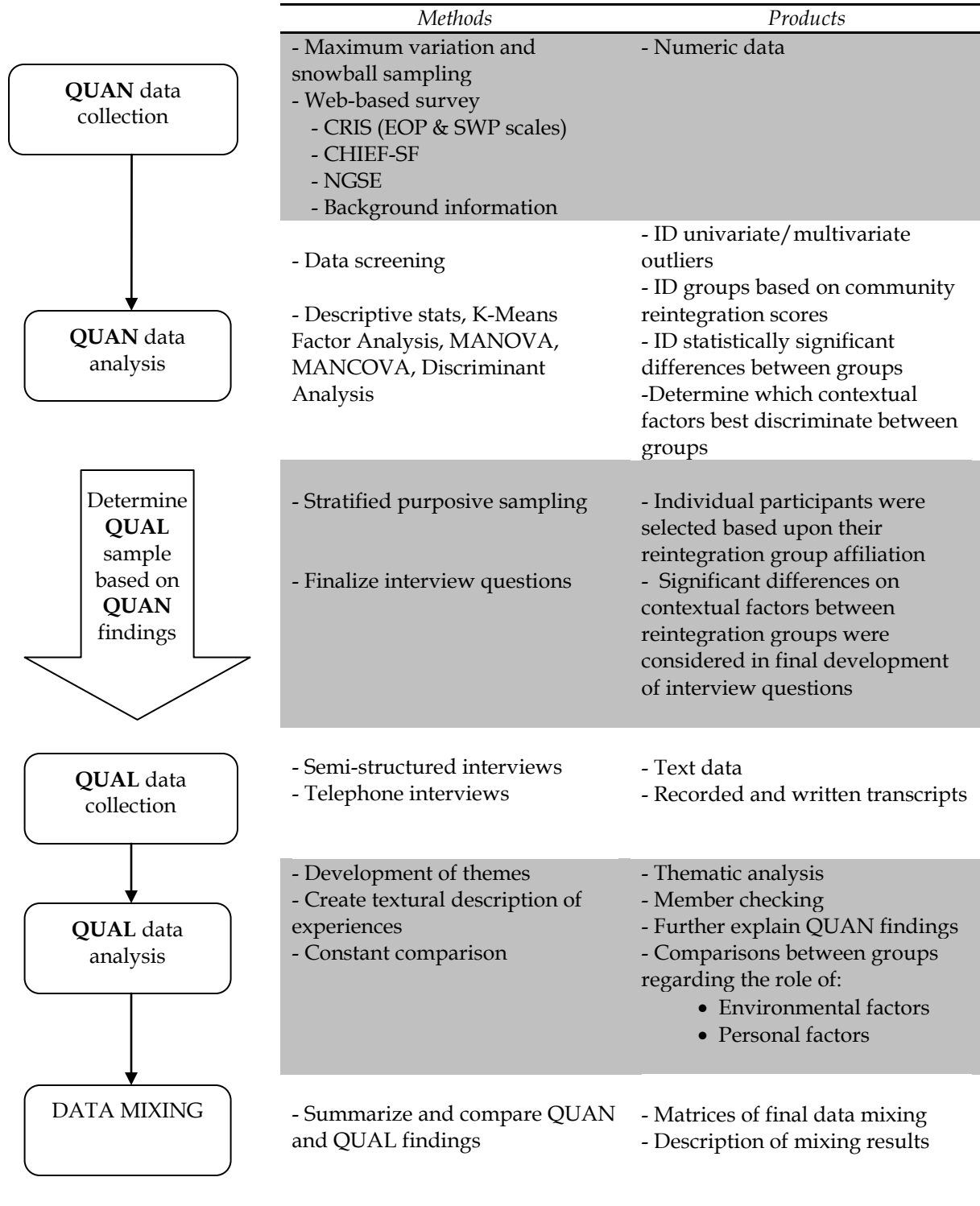
Framework

Mixed methods research was the methodological framework used to guide the project. An explanatory sequential design, primarily the participant selection variant, was used in which quantitative data was collected first to identify and purposefully select participants for the qualitative phase. Then in-depth, qualitative data was collected from participants to aid in explaining and expanding the quantitative results (Creswell & Plano Clark, 2011). More specifically, quantitative data was used to determine injured service members' level of community reintegration, identify groups of injured service members with similar integration scores, and identify the contextual factors that influence community reintegration. The qualitative data, collected as a follow-up to the quantitative results, further explained the influences of the contextual factors on community reintegration. The use of both quantitative and qualitative data was designed to bring greater insight into the role of contextual factors and how they influence the transition between injury and rehabilitation and reentry into their home and community.

The purpose of using both quantitative and qualitative methods is to gather a better explanation of the influence of the contextual factors than would be possible by collecting and analyzing either type of data separately (Creswell & Plano Clark, 2011). This greater understanding of the phenomenon develops through the process of mixing data and using the strengths of each data strand to answer the overarching research

questions. A strength of quantitative data is the generalizability to a larger population, yet quantitative data generally lacks the depth of understanding on the individual level. A strength of qualitative data is the breadth of understanding a phenomenon at an individual and small group level, yet it lacks the generalizability to a larger population (Johnson & Onwuegbuzie, 2004). Regarding this study, the qualitative findings assisted in interpreting and explaining the underlying meanings of the survey responses and quantitative analyses. The process of data mixing and approaching the research questions using different data collection techniques is designed to increase validity and reliability of findings (Tashakkori & Teddlie, 2003). Data mixing within mixed methods research assists with increasing the *inference quality* than findings from a single method study. Inference quality is a mixed methods term that refers to the accuracy of the deductively and inductively drawn conclusions (Teddlie & Tashakkori, 2003). Data from the quantitative findings and qualitative results will be merged to create a more comprehensive understanding of how environmental factors influence injured service members' community reintegration. See Figure 3.1 for a logic model representing the progression of the explanatory sequential design and how the data strands were mixed.

Figure 3.1
 Sequential Explanatory Design Logic Model and Procedures



Participants

Participants in the study included injured service members with single or multiple physical, psychological, and/or emotional injuries during their service in OEF, OIF, or OND. Obtaining a sample with large variability in community reintegration scores was a priority to enable meaningful comparisons to be made between participants who are highly reintegrated and those who are moderately or lowly integration. Therefore, a broad range of organizations and individuals assisted in recruiting a highly variable sample. For example, adapted sports organizations were contacted to recruit injured service members who actively participate in community activities such as sport camps while the aim of contacting transitional programs was to recruit injured service members who may have limited reintegration experiences. These organizations and individuals included: (a) adaptive sports clinics, camps, and other recreational programs; (b) online support forums and services; (c) transitional programs between rehabilitation and community reentry; and (d) advocacy groups for veterans benefits. More specifically, the following are examples of the number of organizations and individuals contacted to assist with recruitment: approximately 300 US Paralympic Sport Clubs; five Wounded Warrior Battalions; five adventure-based and/or therapeutic recreation programs for injured service members; four professional listservs and Facebook pages; eight online forums and Facebook pages for veterans; five foundations for injured service members and others with disabilities; 20 individuals who passed along the study's information on Facebook and other personal connection; and others (see Appendix D for a more in-depth summary of these contacts and their recruitment efforts). All contacts were requested to widely distribute the study information with their injured service members and with any other individual or organizational contacts they might have to increase access to as many potential participants as possible.

Quantitative Methods

The purpose of the quantitative portion of this study was to identify the contextual factors that influence injured service members' ability to reintegrate into their home and community and identify groups of injured service members with different levels of community reintegration. The following research question will drive the quantitative methods: Which contextual factors are significantly related to injured service members' community reintegration?

Quantitative sampling procedures. Snowball sampling and maximum variation sampling was used to recruit participants during the quantitative phase of the study. Snowball sampling consists of having participants aide in recruiting other participants for the study (Onwuegbuzie & Collins, 2007). The intention of snowball sampling was to maximize the sample size for the quantitative portion and to allow increased access to participants in the qualitative portion. In this study, a number of agencies, organizations, and individuals were contacted to aide in the recruitment of participants. These contacts were asked to distribute the study's information to injured service members as well as additional contacts that might help with recruitment. Participants were also asked to aide in recruitment by forwarding information on the study to peers who have also been injured in the GWOT. Due to the nature of snowball sampling and the anonymity of the online survey (except those who provided their contact information in the survey), it was not possible to connect specific respondents to their respective organization.

Maximum variation sampling was also used and consists of obtaining a sample that is very different in their representativeness thus allowing for comparison of group and individual differences (Teddlie & Yu, 2007). For example, it was assumed that

participants recruited from an online forum may demonstrate a lower level of community reintegration than a participant recruited from an adaptive sports program. The variability obtained from this type of purposive sampling strategy allowed for meaningful comparisons to be made between highly reintegrated participants and those with moderate to lower levels of reintegration. These differences are critical to identify to better understand the contextual influences between the groups.

Variables measured. Various quantitative measures were used to assess community reintegration, environmental barriers, and various background information of the injured service member participants.

Community reintegration. The Community Reintegration of Injured Service Members (CRIS) measure assesses how well injured service members have been able to adjust to life in their home and community since their injury (Resnik et al., 2009). The fixed form version of the CRIS measures level of community reintegration through the following objective and subjective scales: (a) Extent of Participation (EOP) (50 items); (b) Perceived Limitations (54 items); and (c) Satisfaction with Participation (SWP) (47 items). These scales have demonstrated strong item reliability (range = .87-.96); strong content, construct, convergent, and discriminant validity indices; and presents large factor loadings (i.e., EOP = .91, Perceived Limitations = .93, SWP = .97) in preliminary testing (Resnik et al., 2009). Additional testing with severely injured service members has also further demonstrated excellent test-retest reliability, strong concurrent validity, and known group validity (Resnik et al., 2011).

However, the all three scales of CRIS are quite lengthy to administer. To limit respondent fatigue and reduce the risk of attrition, only two of the CRIS scales were included in the online survey. The Extent of Participation (EOP) and Satisfaction with Participation (SWP) scales were implemented due to their applicability to the study's definition of community reintegration where both objective (i.e., EOP) and subjective (i.e., SWP) aspects were taken into account. The EOP and SWP items can be found in Appendix A.

Environmental barriers. The Craig Hospital Inventory of Environmental Factors (CHIEF) (Whiteneck, Harrison-Felix, et al., 2004), specifically the short form (CHIEF-SF), were implemented to measure the frequency and extent to which environmental factors serve as barriers to participation in home and community life. The original CHIEF instrument consists of 25 items that measure frequency of environmental barriers in five factors including: (a) attitudes and support; (b) services and assistance; (c) physical and structural; (d) policies; and (e) work and school. Following each item is a follow-up question measuring the magnitude of the barrier indicating if the barrier is not a problem, a little problem, or a big problem. The overall impact of the barrier is calculated by taking the product of the frequency score and the magnitude score. This instrument has demonstrated good psychometric properties including high test-retest reliability (intraclass correlation coefficient (ICC) = .93) and high internal consistency (Cronbach alpha = .93) (Whiteneck, Harrison-Felix, et al., 2004) and has been used with a number of disability populations including SCI (Whiteneck, Meade, et al., 2004), TBI (Whiteneck, Gerhart, & Cusick, 2004), and youth with physical disabilities (Law,

Petrenchik, King, & Hurley, 2007). For this study, CHIEF-SF will be used and includes the 12 items that best reflect the five factors measured in the instrument (Whiteneck, Harrison-Felix, et al., 2004). The CHIEF and items included in the CHIEF-SF can be found in Appendix B.

New General Self-Efficacy (NGSE) scale. To capture a dimension of how personal factors influence an injured service member's ability to reintegrate, general self-efficacy will be measured using the NGSE (Chen, Gully, & Eden, 2001). The NGSE stems from a long line of scale development research measuring self-efficacy according to the SCT framework. The NGSE is a unidimensional, eight item scale measuring general self-efficacy defined as a person's "tendency to view themselves as capable of meeting task demands in a broad array of contexts" (Chen et al., 2001, p. 63).

Psychometric testing yielded high content and predictive validity and relatively high internal consistency (alpha = .86 and .90 respectively) (Chen et al., 2001). See Table 3.1 for scale items.

Table 3.1

New General Self-Efficacy Scale Items

1. I will be able to achieve most of the goals that I have set for myself.
 2. When facing difficult tasks, I am certain that I will accomplish them.
 3. In general, I think that I can obtain outcomes that are important to me.
 4. I believe I can succeed at most any endeavor to which I set my mind.
 5. I will be able to successfully overcome many challenges.
 6. I am confident that I can perform effectively on many difficult tasks.
 7. Compared to other people, I can do most tasks very well.
 8. Even when things are tough, I can perform quite well.
-

Note. Items scored on a five-point Likert-type scale from *strongly disagree* (1) to *strongly agree* (5). Adapted from Chen, G., Gully, S., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4(1), 62-83.

Background information. Many background variables are based on previous research, while other variables were chosen based upon researcher interest. Research indicates that individuals with brain injury, one of the leading injuries among service members, vary in their level of participation in productive activity depending upon: (a) gender (Corrigan et al., 2007), (b) time since injury (Gary et al., 2009), (c) severity of injury, and (d) rehabilitation program attended (Sarajuuri et al., 2005). Therefore, these variables were measured in the survey. Other variables were included based on researcher interest: (a) age, (b) military branch affiliation, (c) military conflict involvement, (d) years of military service, (e) whether injured in active duty or reserves, (f) injury type (e.g., BI, SCI, amputation, burn, PTSD, depression, polytrauma), (g) self-reported disability/handicap level, (h) past alcohol or substance abuse issues, (i) past suicidal ideation, (j) type of physical rehabilitation program attended, (k) experience with community reintegration during rehabilitation, (l) current employment, (m) children, (n) recent separation or divorce, (o) intimate relationship currently, and (p) family or friends in his or her community. The survey also requested contact information (e.g., name and telephone number) from the participants in order to complete a follow-up interview for the qualitative phase of the study. Participants had the option of providing this information depending on their interest to complete a follow-up interview.

Survey implementation. An online, internet-based survey instrument was developed through Qualtrics ®. At the beginning of the survey, participants viewed an

information page on the study and provided informed consent to continue with the survey. The next sections of the survey incorporated the EOP and SWP scales, CHIEF-SF, NGSE, and background information questions. The survey consisted of 144 total questions; however, “skip logic” was incorporated in the survey for questions that may not be applicable to the participant (e.g., rehabilitation questions not shown for participants who did not attend rehabilitation), thus varying the number of questions viewed by each participant. The scales were randomly presented in the survey to reduce the risk of a high rate of missing data on any particular scale. The final section asked if participants were interested in participating in a follow-up interview at a later date and time. Participants were provided an area to give their name, telephone number, and/or e-mail address so they could be reached for an interview.

Quantitative analysis. Completed surveys were collected, coded, and placed into an electronic file. Data were cleaned and checked for errors such as coding mistakes, impossible responses, and missing data. In preparation for data analysis, missing data were input using group mean substitution and case mean substitution procedures where appropriate (Fox-Wasylyshyn & El-Masri, 2005; Tabachnick & Fidell, 2006). Scatterplots and a K-means cluster analysis on the EOP and SWP scales allowed for determination of groups of participants with low, moderate, and high levels of community integration. These groups based on reintegration were used as the means of comparison for the remaining analytic procedures. Multivariate analysis of variance and covariance (MANOVA & MANCOVA) and was used to determine the between-subject effect sizes (i.e., main effects) for each contextual variable. Least significant difference

(LSD) post-hoc tests determined if significant mean differences were observed between the three integration groups. The findings from the MANOVA test also helped to inform the variables to be included in the following discriminate analysis. Additional Pearson Chi-square tests were used to determine group differences on other nominal background variables (e.g., gender, conflict involvement, type of injury). A discriminant analysis using the direct method determined how well the contextual factors, as a canonical variable and as individual variables, were able to discriminate between the reintegration groups. This analysis also determined how well the discriminating variables correctly classified group membership of each case when the only known information is the scores on the discriminating variables, thus indicating the discriminant function of contextual variables on community reintegration.

Data Mixing for Qualitative Methods

Following practices of mixed methodology, the quantitative findings were mixed in two ways to prepare for the qualitative methods. First, the sampling strategy for the qualitative strand was determined by the findings of the quantitative analyses. For example, the participants selected for qualitative interviews were representative of each community reintegration group as determined by the cluster analysis. Second, the quantitative findings aided in the refinement of the qualitative methods such as tailoring interview questions to assist in explaining the quantitative findings. For example, significant findings on the contextual factors informed the researcher of the need to add depth and follow-up questions during interviews to better understand why those

variables were statistically significant and reduce speculation when interpreting the quantitative results.

Qualitative Methods

There are two purposes of collecting qualitative data. The first purpose is to assist with the interpretation of the quantitative findings by explaining how personal, social, and other environmental factors influence community reintegration between groups of injured service members. The second purpose is to better address the contextual *facilitators* of community reintegration since the CHIEF-SF only measures environmental *barriers*. The qualitative methods will address the following research question: How does the influence of contextual factors differ among injured service members with different levels of community reintegration?

Phenomenology guided the qualitative phase and is the study of individuals' lived experiences through the sharing of personal reflections on a certain experience (Creswell, 1998). Semi-structured interviews were conducted with each qualitative participant to obtain a rich description that documents their personal experiences with community reintegration after injury and/or rehabilitation. Interview questions were developed following the ICF and SCT frameworks primarily. The ICF and SCT frameworks support that each environmental component can be classified as either a *facilitator/enabler* or a *barrier/constraint* of functioning and participation in activity. A *facilitator/enabler* is a component that assists in motivation and participation, whereas a *barrier/constraint* is a component that hinders motivation and participation. Therefore, interview questions prompted participants to share how they perceived the environmental

and personal factors that assisted and hindered their ability to participate in home and community activities.

Qualitative data collection procedures. Participants for the qualitative phase were selected using stratified purposeful sampling based on the groups identified by the cluster analysis. Stratified purposeful sampling is common among mixed methods research and includes dividing the sample into homogeneous groups or strata based on one or more characteristics, then purposively selecting participants from each strata (Onwuegbuzie & Collins, 2007). Overall, the number of participants in the study was dependent upon on how many participants indicated if they were willing to participate in the follow-up interview, their availability to participate in the interviews, and the saturation of the themes developed from the interviews. Injured service members were selected based upon their community reintegration scores that were most different from other clusters. More specifically, participants who had high scores in the high reintegration cluster, moderate scores in the moderate reintegration cluster, and low scores in the low reintegration cluster had priority in the selection process. The researcher also considered other information such as gender and type of injury to obtain perspectives of individuals with a variety of backgrounds and experiences.

Interviews were conducted by telephone and were tape-recorded. Names, e-mails, and telephone numbers provided by the participants in the survey were used to contact the injured service members for a follow-up interview. During the interviews, participants were asked questions to assist with their reflections and discussions on the personal and environmental factors that hinder or assist their ability to participate in home and community activities. The following primary interview questions were used to guide the interviews (see Appendix C for the complete interview protocol):

- What was your rehabilitation experience like (if they had rehab)?
- Have you been able to reintegrate back into your home and community like you thought you would be able to?
- Currently, do you consider yourself to be well-integrated in your home and community?
- What types of activities make you feel integrated in your home and community?
- What types of things have supported you in doing these activities?
- Is there anything in particular that has hindered you from reintegrating into your home and community? Or anything that made it difficult for you?
- In what ways are you motivated to reintegrate into your home and community?
- Is there anything about you, personally, that has HELPED you with reintegrating?
- Is there anything about you, personally, that has MADE IT DIFFICULT for you to reintegrate?
- Do you believe you have the skills and abilities to be successfully integrated into your home and community?
- Have you set any goals for yourself?
- Is there anything that we haven't talked about that you would like to discuss?
- Do you have any suggestions for ways rehabilitation programs and other programs can better prepare injured service members with reintegrating?

As necessary, probing questions were asked to obtain or clarify additional information on the comments and ideas of the participant

Qualitative analysis. Telephone interviews were recorded using a digital voice recorder and transcribed into electronic text files. Next, the in-depth data were methodologically reduced to identify potential meanings in participant statements (Creswell, 1998; Merriam, 2009). Analysis consisted of reading through transcripts to find significant, non-overlapping statements, creating codes and labels, and placing those codes into larger meaning units or themes. These meaning units were elaborated into

textual descriptions to explain the essence of the participants' community reintegration experiences (Creswell, 1998; Moustakas, 1994). Concepts of facilitators and barriers to community reintegration were intentionally sought during analysis; however, the researcher also allowed additional themes to develop naturally as a result of the participant/researcher dialogue and to maintain an inductive approach to analysis. The qualitative data were analyzed for the qualitative sample as a whole, as well as for each group. Comparison of personal narratives across groups was necessary to achieve an overall summary of themes related to barriers and facilitators of reintegration. Between group comparisons were necessary to further develop an explanation of group differences based on common themes regarding their experiences with reintegration.

A peer review and examination process was used to derive potential meanings from participants statements and enhance the consistency and dependability of the results (Creswell, 1998; Long & Johnson, 2000; Merriam, 2009). An additional reviewer independently read through all transcripts and developed themes and categories independently from the researcher. The reviewer was informed of the research questions for the study and was requested to find common facilitators and barriers to community reintegration. However, the researcher encouraged the reviewer to develop additional themes as supported in the narratives. After independent analysis was completed by the researcher and reviewer, the two reviewers discussed their individual interpretation of the narratives and themes were refined until agreement was reached. The purpose of adding another researcher review was not necessarily to ensure complete consensus between researchers, but to confirm that the results make sense given the complexity of the data.

An interrater reliability estimate was not calculated due to the inductive approach to the qualitative analysis. A reliability estimate typically follows a deductive approach that assumes that a predefined number of themes are possible which is counterintuitive to the assumptions in this study's qualitative approach (Cook, 2012).

Member checking was also implemented to aide in the validation of the participant's responses during the interviews and the conclusions made based on the responses (Lincoln & Guba, 1985; Maxwell, 2013). Member checking was not intended to validate the experiences of the participants but to help clarify potential misunderstandings and aide in the credibility of the researcher's interpretation of participants' intended meanings (Long & Johnson, 2000; Maxwell, 2013). Interview participants were contacted by e-mail four to six weeks after interviews were conducted. They were provided a summary of the overarching themes and if each theme acted as a facilitator and/or barrier to their reintegration experience. Participants were asked to review and verify if these themes correctly summarized and captured their statements during the interviews.

Final Data Mixing

After analysis, the quantitative and qualitative data were mixed for final interpretation to answer the overarching mixed methods research question: To what extent do contextual factors influence injured service members' community reintegration?

To merge the quantitative and qualitative findings, data comparison through joint display aided in drawing meta-inferences for more meaningful interpretation of the mixed

data (Creswell & Plano Clark, 2011). The contextual variables that were statistically related to community reintegration were compared to the themes that emerged from the interviews. The methodologically reduced information were displayed through the creation of matrices that compared the results of each phase including convergent and divergent findings. This process entailed placing the significant contextual factors from the quantitative phase of the study on the vertical dimension and either complimentary or conflicting findings from the qualitative phase on the horizontal dimension of the matrix. Visual analysis and comparison of the merged results allowed the researcher to determine if the mixed methods study adequately identified the most influential contextual components for each strata of injured service members.

CHAPTER 4

RESULTS

This chapter presents the findings of the mixed methods study including data cleaning procedures and data imputation actions, quantitative findings, decisions for qualitative sampling based on data mixing, qualitative findings, and final data mixing results.

Quantitative Data Cleaning

Prior to subjecting the data to quantitative analyses, the dataset was checked for miscellaneous data errors, outlying cases, and missing data. No miscellaneous data errors were found primarily due to the limited input error associated with the electronic survey program. One outlying case was determined due to the participant only completing one of the questions on the EOP and one question on the SWP scale, thus giving the case an invalid score on each scale. Since cluster analysis is very sensitive to outlying cases, the scores on the EOP and SWP scales for this case were deleted (Norusis, 2008) and the case was not included in the identification of reintegration clusters. All of the case's responses were not deleted from the dataset because almost all other items on the survey were completed. Since MANOVA, MANCOVA, and Discriminant Analysis were the primary analytic techniques employed, missing data were addressed in order to complete the analyses appropriately (i.e., if a case is missing a value on at least one test variable, the case is not included in the analysis even though scores on other variables are present) (Tabachnick & Fidell, 2006). An analysis of missing data indicated that five of the 51

cases in the sample (9.8%) had missing data on at least one of the independent variables tested (e.g., CHIEF-SF factor scores and NGSE score).

Two data imputation techniques were deemed appropriate to handle missing data on different variables. For the missing CHIEF-SF factor scores, case mean substitution was implemented. This technique includes calculating a mean score on a measure from the present values for that individual and assigning the mean score to the missing value. This technique assumes that the missing score is associated with the other scores present on the measure (Fox-Wasylyshyn & El-Masri, 2005; Tabachnick & Fidell, 2006). The missing value on the CHIEF-SF item(s) was substituted with the mean score of the case's completed items on the CHIEF-SF. The mean was substituted for the missing item score and a new factor score was calculated. This technique was completed for four cases (e.g., case # 11, 24, 27, and 39).

For the NGSE variable, group mean substitution was implemented (Fox-Wasylyshyn & El-Masri, 2005; Tabachnick & Fidell, 2006). This technique replaces a missing value with the mean value of the individual's group. This technique assumes that the best guess for the missing case is the mean of the group that the individual is affiliated. Since NGSE has a strong positive correlation with both EOP and SWP, the mean NGSE score of the group is an appropriate estimate. Only one case (e.g., case # 11) was missing the NGSE scale score (i.e., no NGSE items completed; the NGSE was the only measure not completed). Since case # 11 was in the high reintegration cluster (as determined by the cluster analysis described later), the mean NGSE score for the high

reintegration cluster ($m = 4.441$) was substituted. After these data imputation techniques were completed, MANOVA, MANCOVA, and Discriminant Analyses were conducted.

Quantitative Results

The sample consisted of 51 injured service members with a mean age of 39.26 (SD = 9.64). Descriptive information on the sample is represented in Table 4.1.

Table 4.1

Sample Descriptive Statistics

Variable	<i>n</i>	%
Gender		
Male	39	76.5
Female	11	21.6
Military Branch		
Army	32	62.7
Marines	11	21.6
Air Force	6	11.8
National Guard	6	11.8
Navy	3	5.9
Coast Guard	2	3.9
Private Contractor	1	2.0
Other	1	2.0
Conflict Involvement		
OIF	40	78.4
OEF	28	54.9
OND	4	7.8
Other	15	29.4
When Injured		
Active Duty	40	78.4
Reserves	6	11.8
Other	3	5.9
Types of Injury		
Brain injury	22	43.1
Sensory	22	43.1
Spinal cord injury	15	29.4
Amputation	13	25.5
Burn	4	7.8

PTSD	33	64.7
Depression	29	56.9
Generalized anxiety	21	41.2
Other	12	23.5
2 or more injuries	37	72.5
Perceived Level of Disability/Handicap		
Very severe	11	21.6
Somewhat severe	13	25.5
Moderate	16	31.4
Slight	6	11.8
Not disabled	3	5.9
Attended Rehabilitation	30	58.8
Received Community Reintegration Training during Rehabilitation		
Yes	24	47.1
No	6	11.8
Missing	21	41.2
Time Since Injury		
Less than 3 months	1	2.0
3-6 months	0	0.0
6 months- 1 year	2	3.9
1-3 years	5	9.8
3-5 years	13	25.5
Over 5 years	28	54.9
Past Problem with Alcohol/ Substances	18	35.3
Suicidal Ideation	19	37.3
Job in Past 2 Weeks	22	43.1
Intimate Relationship	38	74.5
Separated/ Divorced	8	15.7
Children	30	60.0
Dependable Family/Friends in Community	38	74.5

Note: Not all category percentages are out of 51 participants due to overlap in response (e.g., serving in > 1 conflict) or non-response.

Considerably more women participated in the study compared to the less than 4% of the national population of injured service members, but military branch affiliation closely resembled the national population (Department of Defense, 2013). As expected, most participants were injured in active duty and more were injured in OIF than OEF and OND. Regarding the sample's physical injury characteristics, BI was the highest single

injury reported followed by sensory impairments, SCI, amputation, and burns, but it is notable that most service members in the sample had multiple injuries. Other injuries reported other injuries such as non-SCI related nerve damage, other musculoskeletal injuries, chronic fatigue, and infections.

Correlations. Regarding the sample’s community reintegration scores, average score on the EOP scale was 45.77 (SD = 9.98) and SWP scale was 46.47 (SD = 13.13). The possible range for each scale is 20 to 70 indicating a moderate level of integration for the sample. EOP and SWP demonstrated a strong positive correlation ($r = .675$, $p < .000$). Self-efficacy, all environmental barriers, and perceived disability/handicap had significant relationships with the community reintegration scales with the exception of perceived disability/handicap and extent of participation ($p = .052$). Correlations are reported in Table 4.2.

Table 4.2

Correlations between Contextual Variables and Community Reintegration

Variable	Extent of Participation	Satisfaction with Participation
Self-Efficacy*		
Pearson Correlation	.784	.800
Sig. (2-tailed)	.000	.000
Attitude & Support Barriers		
Pearson Correlation	-.489	-.483
Sig. (2-tailed)	.000	.000
Physical & Structural Barriers		
Pearson Correlation	-.605	-.623
Sig. (2-tailed)	.000	.000
Services & Assistance Barriers		
Pearson Correlation	-.599	-.589
Sig. (2-tailed)	.000	.000
Work & School Barriers		
Pearson Correlation	-.349	-.317
Sig. (2-tailed)	.013	.025

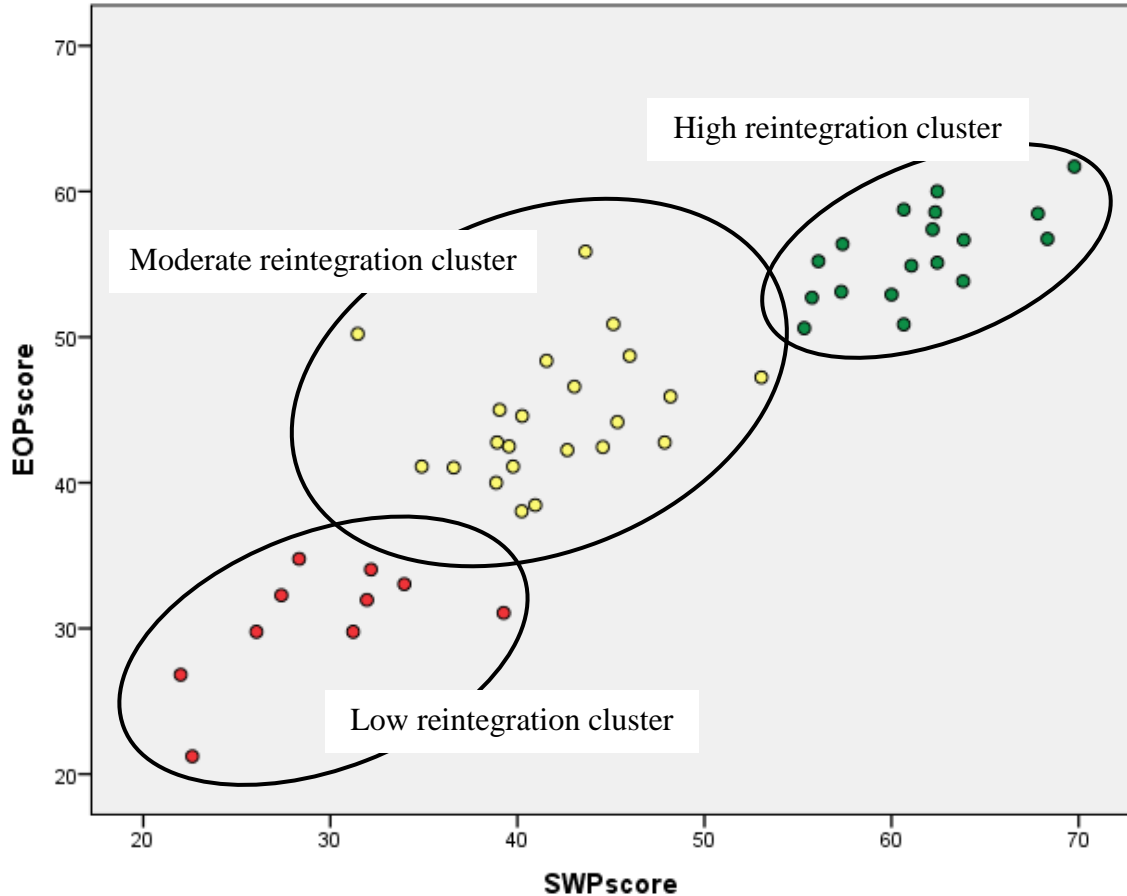
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Policy Barriers			
	Pearson Correlation	-.439	-.409
	Sig. (2-tailed)	.001	.003
Perceived Disability/Handicap			
	Pearson Correlation	-.282	-.343
	Sig. (2-tailed)	.052	.017
<hr/>			

Note: * As measured by the New General Self-Efficacy Scale.

Cluster analysis. A K-Means Cluster Analysis was conducted to determine the number of clusters of participants based on EOP and SWP scores. Since this analytic technique allows the researcher to estimate the number of potential groups, a scatterplot of community reintegration scores assisted in the estimation of groups. Visual analysis of scatterplots indicated the presence of three potential groups; therefore, three groups were entered into the K-Means Cluster Analysis. The results provided further support for three clusters of participants and assigned 10 cases to the low integration group, 22 cases to the moderate integration group, and 18 cases to the high integration group. One case was not included in a cluster due to only completing one question on the SWP and two questions on the EOP and was deemed non-representative of the individual's reintegration. See Figure 4.1 for the scatterplot with the group assignments (i.e., clusters).

Figure 4.1

Clusters based on Reintegration Scores



Note: EOP = Extent of Participation; SWP = Satisfaction with Participation.

MANOVA/MANCOVA. A MANOVA model and a MANCOVA model were tested to determine mean differences between the three reintegration groups based on multiple contextual measures. The MANOVA model included all CHIEF-SF items and their composite factor scores (e.g., environmental factors), NGSE, age, years of service, number of deployments, time since injury, and perceived level of disability/handicap (e.g., personal factors). Significant main effects were found for nine CHIEF-SF items, all five CHIEF-SF factors, NGSE, and perceived level of disability/handicap. The three

CHIEF-SF items that did not have significant main effect included: (a) transportation (partial eta squared = .118, $F = 3.005$, $p = .060$), (b) natural environment (partial eta squared = .106, $F = 2.666$, $p = .080$), and (c) attitudes at work and school item (partial eta squared = .124, $F = 3.178$, $p = .051$).

The purpose of the MANCOVA model was to estimate the main effects of the significant variables in the MANOVA model by controlling for perceived disability/handicap as a covariate. The purpose of controlling for perceived disability/handicap was to more clearly determine the effects of contextual variables despite participants' disability/handicap level. The MANOVA model indicated perceived level of disability/handicap had a significant main effect (partial eta squared = .126, $F = 3.229$, $p = .049$). The MANCOVA model included the five CHIEF-SF factors and NGSE with perceived level of disability/handicap as a covariate. Individual CHIEF-SF items were not included in the second model since the factor scores are derived from the items. Results indicated NGSE had the largest main effect (partial eta squared = .620, $F = 35.907$, $p < .000$), followed by Services and Assistance Barriers (partial eta squared = .326, $F = 10.633$, $p < .000$), Physical and Structural Barriers (partial eta squared = .239, $F = 6.891$, $p = .002$), Attitudes and Support Barriers (partial eta squared = .223, $F = 6.310$, $p = .004$), Work and School Barriers (partial eta squared = .147, $F = 3.790$, $p = .030$), and Policy Barriers (partial eta squared = .141, $F = 3.598$, $p = .036$).

After the main effects were determined, LSD post-hoc analyses and Pearson Chi-square tests were used to determine significant differences between high, moderate, and low reintegration groups. Post-hoc analyses indicated significant differences between

groups on EOP, SWP, NGSE, CHIEF-SF factors, and perceived level of disability/handicap. Chi-square tests indicated significant differences between groups in their observed counts in regards to injury type including BI, SCI, PTSD, depression, GAD, and those who had two or more injuries. Significant differences in suicidal ideation were also noted. Group differences, LSD post-hoc analyses results, and Pearson Chi-square tests results are reported in Tables 4.3, 4.4, and 4.5.

Table 4.3

Group Differences on General Background Information

	Low Reintegration Cluster	Moderate Reintegration Cluster	High Reintegration Cluster	Total
Gender				
Male	8 (20.5%)	15 (38.4%)	16 (41.0%)	39 (100%)
Female	2 (20%)	7 (70%)	1 (10%)	10 (100%)
Conflict Involvement				
OEF	6 (21.4%)	11 (39.2%)	11 (39.2%)	28 (100%)
OIF	9 (22.5%)	18 (45%)	13 (32.5%)	40 (100%)
OND	2 (50%)	2 (50%)	0 (0%)	4 (100%)
Other	3 (20%)	7 (46.6%)	5 (33.3%)	15 (100%)
Injury Occurrence				
Active Duty	7 (17.9%)	18 (46.1%)	14 (35.8%)	39 (100%)
Reserves	3 (50%)	1 (16.6%)	2 (33.3%)	6 (100%)
Other	0 (0%)	2 (66.6%)	1 (33.3%)	3 (100%)
Military Branch				
Army	5 (16.1%)	14 (45.1%)	12 (38.7%)	31 (100%)
Marines	4 (36.3%)	5 (54.4%)	2 (18.1%)	11 (100%)
Navy	2 (66.6%)	0 (0%)	1 (33.3%)	3 (100%)
Air Force	1 (16.6%)	3 (50%)	2 (33.3%)	6 (100%)
National Guard	2 (33.3%)	3 (50%)	1 (16.6%)	6 (100%)
Coast Guard	0 (0%)	0 (0%)	0 (0%)	0 (100%)
Private Contractor	0 (0%)	1 (100%)	0 (0%)	1 (100%)
Other	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Job in Past 2 Weeks	4 (18.1%)	8 (36.3%)	10 (45.4%)	22 (100%)
Intimate Relationship	8 (21.6%)	17 (45.9%)	12 (32.4%)	37 (100%)
Separated/divorced Recently	3 (37.5%)	4 (50%)	1 (12.5%)	8 (100%)
Children	6 (20%)	15 (50%)	9 (30%)	30 (100%)

Dependable				
Family/Friends in				
Community	7 (18.4%)	16 (42.1%)	15 (39.4%)	30 (100%)

Note: Number of participants and percentage of sample in each group reported. Pearson Chi-Square tests indicated no significant differences. Other conflict involvement included Desert Storm (Iraq), Desert Shield (Iraq), Operation Joint Guard (Bosnia), Vietnam, Operation Continue Hope (Somalia), Operation Uphold Democracy (Haiti), Operation Joint Endeavor (Bosnia), and others. Other injury occurrence included injury after military service. Other military branch included Individual Augmentee to Army (assigned to a unit to fill shortages or when specialized skill set is needed).

Table 4.4

Group Differences on Injury and Related History

	Low Reintegration Cluster	Moderate Reintegration Cluster	High Reintegration Cluster	Total
Perceived Level of Disability/handicap	3.10 (SD=.73) _a	2.59 (SD=.95)	2.00 (SD=1.41) _a	
Injury Type				
Spinal Cord Injury*	7 (46.6%)	6 (40%)	2 (13.3%)	15(100%)
Brain Injury*	8 (36.6%)	10 (54.4%)	4 (18.1%)	22 (100%)
Amputation	0 (0%)	8 (61.5%)	5 (38.4%)	3 (100%)
Burn	1 (25%)	1 (25%)	2 (50%)	4 (100%)
Sensory	6 (27.2%)	10 (45.4%)	6 (27.2%)	22 (100%)
Post-traumatic Stress				
Disorder*	9 (27.2%)	17 (51.5%)	7 (21.2%)	33 (100%)
Depression*	8 (28.5%)	17 (60.7%)	3 (10.7%)	28 (100%)
Generalized Anxiety				
Disorder*	5 (23.8%)	14 (66.6%)	2 (9.5%)	21 (100%)
Other	2 (16.6%)	4 (33.3%)	6 (50%)	12 (100%)
2 or more Injuries*	10 (27.0%)	17 (45.9%)	10 (27.0%)	37 (100%)
Time since Injury				
< 3 months	5 (17.8%)	0 (0%)	12 (42.8%)	17 (100%)
3-6 months	1 (7.7%)	0 (0%)	3 (23%)	0 (100%)
6 months – 1 year	3 (75%)	1 (50%)	1 (25%)	2 (100%)
1 - 3 years	1 (50%)	0 (0%)	0 (0%)	4 (100%)
3 - 5 years	0 (0%)	9 (69.2%)	1 (100%)	28 (100%)
> 5 years	0 (0%)	11 (39.3%)	0 (0%)	13 (100%)
History of				
Alcohol/Substance Abuse	4 (22.2%)	9 (50%)	5 (27.7%)	18 (100%)
Suicide Ideation*	4 (21%)	13 (68.4%)	2 (10.5%)	19 (100%)
Received				
Rehabilitation Services	8 (26.6%)	13 (43.3%)	9 (30%)	30 (100%)
Experience with Community				

Reintegration during				
Rehabilitation	5 (20.8%)	10 (41.6%)	9 (37.5%)	24 (100%)

Note: Number of participants and percentage of sample in each group reported. Mean group scores sharing a common subscript on Perceived Disability/Handicap are statistically different ($p < .05$) based on MANOVA LSD post-hoc tests. * indicates a significant Pearson Chi-Square test ($p < .05$)

Table 4.5

Group Differences on Community Reintegration and Contextual Variables

	Low Reintegration Cluster	Moderate Reintegration Cluster	High Reintegration Cluster
Extent of Participation	30.47 (SD=3.99) _a	44.54 (SD=4.37) _a	55.77 (SD=3.09) _a
Satisfaction with Participation	29.49 (SD=5.29) _a	41.88 (SD=4.77) _a	61.51 (SD=4.25) _a
Physical and Structural Barriers	4.85 (SD=2.04) _a	3.02 (SD=2.01) _a	1.25 (SD=1.64) _a
Services and Assistance Barriers	3.37 (SD=1.86) _a	1.59 (SD=1.32) _a	.63 (SD=.82) _a
Work and School Barriers	2.55 (SD=2.92) _a	1.86 (SD=2.16) _b	.52 (SD=.58) _{ab}
Attitudes and Support Barriers	3.70 (SD=2.72) _a	2.86 (SD=1.90) _b	1.00 (SD=1.22) _{ab}
Policies	3.60 (SD=2.59) _a	2.46 (SD=2.29)	1.10 (SD=.93) _a
Self-Efficacy	2.63 (SD=.58) _a	3.59 (SD=.57) _a	4.44 (SD=.35) _a
Age	38.80 (SD=7.29)	42.45 (SD=9.6)	36.35 (SD=9.72)
Years of Service	11.90 (SD=5.42)	16.73 (SD=9.01)	12.38 (SD=8.25)
Number of Deployments	1.90 (SD=1.28) Range=1-5	2.82 (SD=2.83) Range=0-12	3.13 (SD=3.18) Range=1-13

Note: MANOVA and MANCOVA with LSD post-hoc tests performed. Mean group scores sharing a common subscript are statistically different ($p < .05$). Possible scores for Extent of Participation and Satisfaction with Participation (range = 10-70; higher score indicates higher integration). Self-efficacy was measured by the NGSE on a 5 point Likert-type scale (higher score indicates higher self-efficacy). Barriers were measured by the CHIEF-SF consisting of a 5 point Likert-type scale (0= never a barrier, 4= daily barrier) multiplied by a 2 point scale (1= little problem, 2= big problem) (range = 0 – 8; higher score indicates a larger barrier)

In summary, most contextual factors (e.g., CHIEF-SF factors, NGSE, perceived level of disability/handicap), many types of injury (e.g., BI, SCI, PTSD, depression, GAD, two or more injuries), and perceived level of disability/handicap significantly vary between groups to some degree. Suicidal ideation was also more prevalent within the moderate reintegration group than statistically expected by chance.

Discriminant analysis. Discriminant analysis using the direct method was performed to further determine if contextual variables discriminate between reintegration groups and, more specifically, to determine which contextual variables best discriminate between reintegration groups (Tabachnick & Fidell, 2006). The discriminating variables included in the model were CHIEF-SF factors, NGSE, and perceived level of disability/handicap based on the significant MANOVA findings.

Due to including three groups in the model, two discriminatory functions were tested to determine the discriminatory power of the model. A significant Wilk's Lambda test indicated the discriminatory power of the first function (Wilk's Lambda = .268, $p < .000$). Once the discriminatory power was reduced after the first discriminatory function, the second function had a non-significant Wilk's Lambda and did not significantly help discriminate between the groups (Wilk's Lambda = .898, $p = .607$). Therefore, reported discriminatory estimates are based on the first function. The first function accounted for 95.4% of the between group variance with a canonical correlation of .838 (Canonical $R^2 = .702$) indicating that contextual variables, as a pooled variable, is a significant discriminator of group affiliation.

To determine which contextual variables best discriminate between groups, standardized canonical discriminant function coefficients were reported. The discriminating power of each contextual variable, in descending order of effect sizes (coefficient squared), included: (a) NGSE = .685, (b) Services and Assistance Barriers = .076, (c) Attitudes and Support Barriers = .058, (d) perception of disability/handicap = .057, (e) Policy Barriers = .007, (f) Physical and Structural Barriers = .005, and (g) Work and School Barriers = .0007. Therefore, findings indicate NGSE was the best discriminatory variable followed by Services and Assistance Barriers, Attitudes and Support Barriers, and perceived disability/handicap.

To obtain a better indication of how well contextual variables correctly classify each case within the groups, case classification statistics were reported (replicated with cross-validation; however, cross-validated estimates not reported due to the small original sample size and cross-validated estimates use a test sample of the original sample). The model was able to correctly classify 90% of cases in the low reintegration group, 77.3% of cases in the moderate reintegration group, 93.8% of cases in the high integration group, and 84.5% overall. Due to the presence of three clusters, 33.3% of the cases were expected to be correctly classified by chance. Therefore, contextual variables are moderately to highly effective in discriminating between service members who scored low, moderate, and high on reintegration (Tabachnick & Fidell, 2006).

Summary of quantitative results. The quantitative phase of the study answered the research question: which contextual factors are significantly related to community reintegration among injured service members? The first step in the analysis was to

determine groups of injured service members with different levels of community reintegration. Cluster analysis confirmed the presence of three clusters that the researcher labeled as low reintegration, moderate reintegration, and high reintegration. Then, Pearson chi-square tests, MANOVA and MANCOVA with LSD post-hoc analyses, and discriminant analyses were used to determine which contextual factors and background variables were most related to community reintegration among the three reintegration clusters. Chi-square analysis indicated significant differences between groups regarding some types of injuries (e.g., BI, PTSD, and depression) and suicidal ideation. The MANOVA, MANCOVA, and discriminant analyses were instrumental with determining if contextual factors significantly discriminated between the reintegration clusters and, if so, which contextual factors were related to reintegration scores and the clusters based upon the scores. Results from the MANCOVA and discriminant analysis determined that contextual factors were significantly related to community reintegration cluster affiliation. When the contributions of each contextual factor were considered, results suggested that general self-efficacy and services and assistance barriers were the strongest indicators of reintegration. The MANCOVA and discriminant analyses were comparable but did not completely agree on the effects of other contextual variables (e.g., attitudes and support barriers, physical and structural barriers, work and school barriers, policy barriers, and perceived level of disability/handicap).. In general, the analyses indicated that injured service members who were less reintegrated experienced lower general self-efficacy, had more difficulty with various environmental barriers, and viewed the effects of their injuries as more disabling. Therefore, the answer to the

quantitative research question is that general self-efficacy, services and assistance barriers, attitude and support barriers, perception of disability barriers, policy barriers, physical and structural barriers, and work and school barriers were significantly related to community reintegration of injured service members.

Data Mixing for Qualitative Sampling

Since this mixed methods study follows the participant selection variant of the explanatory sequential design, the qualitative sample was determined from findings in the quantitative phase. In particular, the strata developed from the cluster analysis provided the means to complete the stratified purposive sampling. Individual service member participants were selected based on if he/she was willing to complete the interview as indicated in the survey, his/her strata affiliation, and his/her score on the community reintegration scales. The researcher attempted to select participants that exhibited the most variation from cases in other groups to gather and compare in-depth description of their experiences with reintegration. Selection of participants who were the most different from each other according to their strata (i.e., cluster) affiliation and community reintegration scores contributed to a better understanding of why group differences existed.

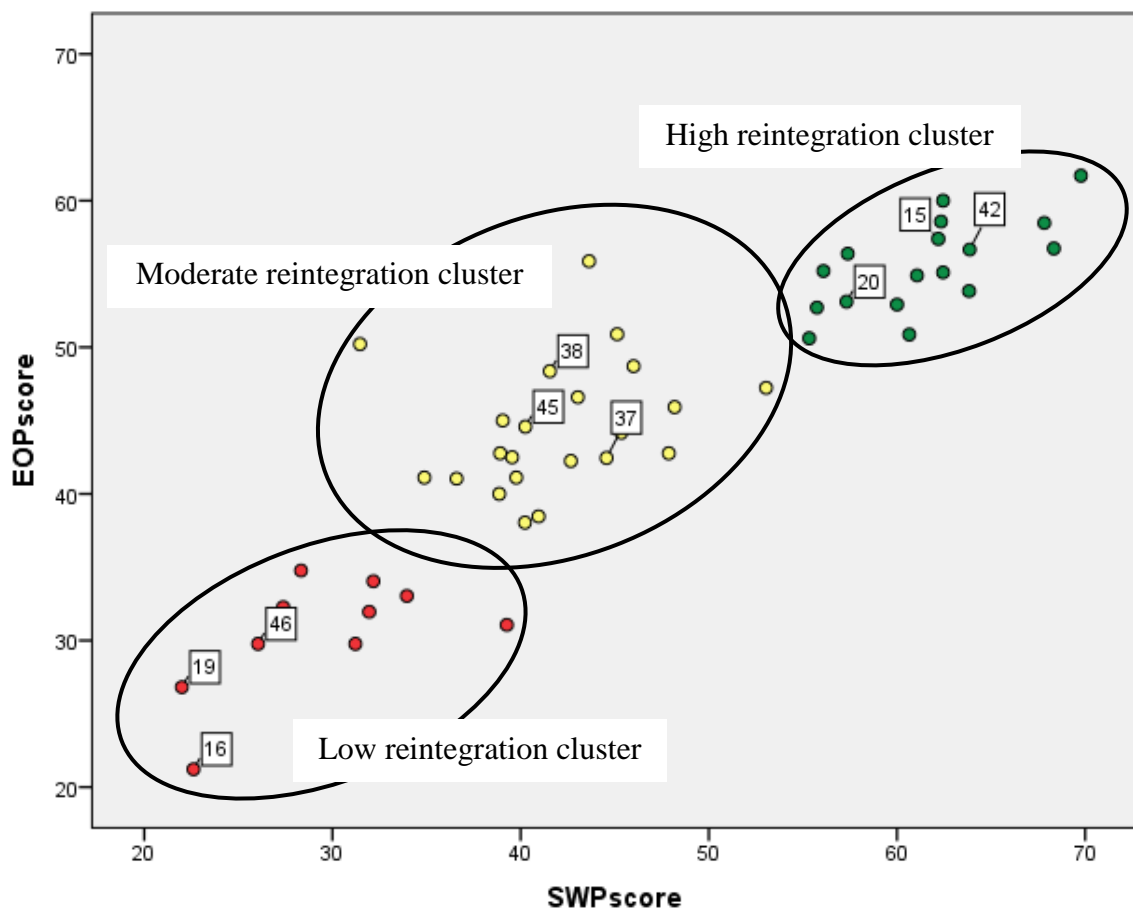
Qualitative Results

Participants for the qualitative phase of the study were sampled from the 31 injured service members who completed the survey and indicated their interest in completing the interview. Initially, nine participants were contacted to set up interviews. However, due to non-response, additional participants were contacted until nine

participants responded and completed the interviews. Seventeen prospective participants were contacted overall. Figure 4.2 illustrates the interview participants, their case numbers, and their reintegration cluster affiliations. Information on interview participants with their representative case numbers are in Table 4.6.

Figure 4.2

Interview Participants and Cluster Affiliation



Note: EOP = Extent of Participation, SWP = Satisfaction with Participation.

Table 4.6

Interview Participant Information

Case	Participant Pseudonym (cluster)	Gender	Age	Injuries	Time since Injury	Conflict Involvement	How Injured
16	Jacob (low)	Male	37	Bulging discs lower back/neck, head trauma, other orthopedic, PTSD, depression	10 years	OIF, OEF	Improvised explosive device
19	Anthony (low)	Male	33	C2 and C7 SCI, severe BI, blind in right eye, GAD	3 years	OEF, OND	“In line of duty”
46	Sarah (low)	Female	38	Vertebral injury with bulging discs, BI, hearing difficulty, PTSD, depression	2 years	OIF, OEF	Injured during flight mission
45	Kathy (moderate)	Female	49	Hearing difficulty, PTSD, depression, GAD, breast cancer, chronic fatigue	~ 2 years	OIF, OEF, OND, Desert Storm	Experiences during military deployments

38	Jack (moderate)	Male	42	Right above knee amputation, radial nerve damage in left arm, PTSD, depression	8 years	OIF, OEF, OND	Gunshot wound
37	Ryan (moderate)	Male	37	Mild BI, right above knee amputation, hearing loss in right ear, PTSD, depression	9 years	OIF	Rocket propelled grenade
20	Samuel (high)	Male	42	BI with seizure disorder, systemic nerve damage, reflex sympathetic dystrophy in upper body, hearing impairment, PTSD	11 years	OIF	Airplane was shot down
15	David (high)	Male	38	Spinal injury- paraplegia, multiple fractures, PTSD	5 years	OIF, OEF	Non- military motorcycle crash, PTSD related to military experiences
42	Nick (high)	Male	38	Left below elbow amputation	9 years	OIF, Joint Endeavor	Rocket propelled grenade

Three interviews from each cluster were conducted to gain in-depth descriptions from individuals representing each cluster. After nine interviews were completed, six themes in their experiences were apparent with no new major themes emerging. The researcher determined the nine interviews were successful with identifying the primary contextual factors, addressing how the factors hindered or facilitated participants' reintegration experiences, and how the factors differed between reintegration clusters. The lengths of interviews were between 33 to 61 minutes with an average of 48 minutes. Six participants responded to the e-mail for the member checking procedure and all six verified that the themes were accurate of their experiences including the theme's role as a facilitator and/or barrier in their reintegration process.

Thematic analysis and findings. Analysis of participant narratives was instrumental with developing a better understanding of the influence of contextual factors in the process of reintegrating into home and community activities after injury. The peer review and examination process yielded six themes that are believed to accurately reflect participant experiences with community reintegration. The following sections will provide a summary of the primary themes developed from participant narratives. Exemplary descriptions of participant responses were included to provide a textural description and provide evidence of the themes. Overarching themes across clusters are described first followed by summary explanations of how each group differed in their descriptions of the contextual factors that influenced their reintegration process.

Overarching themes. The influences of many contextual factors as facilitators and barriers were evident in the interviews. Across all groups, thematic analysis reflected the critical roles that (a) social support and (b) personal factors (e.g., self-efficacy, motivation) had on the individual’s ability to reintegrate. Analysis also indicated the roles of (c) adaptive sport, recreation, and other social programs; (d) rehabilitation programs and therapists; (e) school, work, and volunteering; and (f) organizations and policies in their ability to influence the development of social support and personal factors that, in turn, influenced their community reintegration. Table 4.7 provides support for the prevalence of themes across participants.

Table 4.7

Prevalence of Themes across Interview Participants

Participant (cluster)	Social support		Personal factors		Rehabilitation programs & therapists	Adapted sports, recreation, & other social programs	School, work, & volunteering	Organizations & policies	
Jacob (low)	✓	X	✓	X	X	✓	X	✓	X
Anthony (low)	✓	X	✓	X	✓	✓	N/A	✓	X
Sarah (low)		X		X	X	✓	X	✓	X
Kathy (moderate)	✓	X	✓		✓	✓	✓	✓	X
Jack (moderate)	✓		✓	X	✓	N/A	✓	✓	

Ryan (moderate)	✓	✓	X	✓	✓	✓	✓	X
Samuel (high)	✓	✓		✓	X	✓	✓	✓ X
David (high)	✓	✓		✓		✓	N/A	✓ X
Nick (high)	✓	✓		✓		✓	✓	✓ X

Note: A “check” indicates the contextual theme acted as a facilitator of community reintegration. An “X” indicates the contextual theme acted as a barrier to community reintegration. N/A = not applicable due to non-involvement.

Social support. The most discussed theme across clusters was the role of social support in community reintegration. Social support and connections with others was highly influential as both a facilitator and barrier of community reintegration. The most influential social relationships took the form of family and friend support (human and canine support) and connections with other injured and non-injured service members.

Wives. Regarding social support as a facilitator, participants discussed the importance of having support from family and friends. Wives, in particular, played a major role in helping injured service members with a variety of home and community activities as well as supporting the injured service member with providing personal care, home activities, participation in sports, volunteer activities, and other social activities.

None of the participants had husbands, therefore husbands were not mentioned.

You name it, she does it. She gave up her career to support me. You know I have grand-mal seizures and they were wildly out of control at first and she was just right there all day, every day, taking care of me. You know, she has never once said, ‘This is more than she can handle, I’m leaving.’ She has been there constantly – Samuel (high reintegration cluster)

Like I said she is a social person, she has always been that way and I have always been kind of the opposite so she forces me to go out and see my friends and meet new people and do new things, go to DC or go up to Charlotte or whatever. – Jack (moderate reintegration cluster)

...my wife certainly respects and sees the value in volunteering and stuff too. She does a lot of volunteering and she supports me in understanding that I need to give up time to do this stuff sometimes, you know. My family is very supportive. You know if there's charity walks, they participate as well. – Ryan (moderate reintegration cluster)

Being married, going to things with my wife has been a tremendous benefit to going out and meeting other people...if I weren't married, I really enjoy playing video games and I may just, you know, sit around and play video games all day instead of going out to meet a couple of friends of hers to hang out. So that's been a tremendous benefit. - Nick (high reintegration cluster)

Children. Children also influenced their participation in social and community activities. Children motivated the participants to be active in the community and to be positive role models.

I have a kid too so that's been a huge portion of my life... You just have to be social to get the boy out, so we can meet other people and it kinda forces you to go to birthday parties. All those extra things that children need to do to, you know, for fulfillment. So I've had the opportunity to go to those types of things and it gets me out. - Jack (moderate reintegration cluster)

I really enjoy coaching my son's basketball and baseball teams and I, um, family dinners, praying as a family before we go to bed, taking them out to the zoo. You know, all aspects really. I don't know where I'd be without my family. - Ryan (moderate reintegration cluster)

I want to be a positive role model to my boys. I want them to know that bad things in life happen to good people, but you can still move forward. - Ryan (moderate reintegration cluster)

Friends. Friends, both human and canine, also served a supportive role by being available when needed for simple tasks such as talking on the phone, keeping the dog during trips, and providing motivation to be active.

Yeah, it's helpful that it's there and you can pick up the phone and sit here in the quiet or be there whenever you need. So, yeah, your family and your friends are huge. - Kathy (moderate reintegration cluster)

Well, you know, I'm lucky, I might be late in life but I don't have any kids so, my only kid is my dog and which my good friends make it easy for me to travel because they watch my dog and I don't have to worry about my dog getting messed up at the kennel or anything like that. But a good support team on the home front, you know, when I leave I know everything is taken care of, that makes it a lot easier. - David (high reintegration cluster)

A dog is like, 'Let's play! Where we going? What are we gonna do?' So, I would say, my dog. Even though, I call it the darkest hours of the darkest days, this is what my therapist used was my dog, because she's like, 'If you kill yourself what's going to happen with (dog's name)?' and I said, 'Well, I could just take her to the kennel and no one would know.' She said, 'Wouldn't she always be looking for you?' (Extended pause) So my dog kept me alive because she made me feel guilty. You know, if I had just left her. So that's what gets me going every day is my dog because she's like, 'Let's go!' - Kathy (moderate reintegration cluster)

I've been trying to get like a therapy dog. Which I've talked to my mental health counselor about doing that because it would force me to get out and be a part of the outside world like taking the dog to the dog park or meeting people or whatever...It's getting out and about. - Sarah (low reintegration cluster)

Other service members. Establishing connections with other service members, both injured and non-injured, were very influential in feeling supported and being integrated in their homes and community. Creating connections with other veterans allowed the participants to regain a sense of camaraderie and re-establishing the sense of personal identity as part of the military family.

It's good to be with other veterans too because you know they're not going to judge you. - Jacob (low reintegration cluster)

And like I said it helps to have neighbors that are all retired military or active duty military, if I ever have a problem or issue, they are right there to support me. You know, they can all say, 'We have been there. We've done that. We have seen it. We know what you are going through,' and all of my family is either military or

retired military or have been around us, all of us that have been, so they all know and are all supportive and no one has ever given me a hard time about it. So it's a huge support network. – Samuel (high reintegration cluster)

I think...when you deploy, there's a sense of appeal or a feeling of a unit or a family, whatever you want to call it that develops because that's who you're with for that period of time and they become your family and they are people that you laugh and you cry with and you talk about stuff with. So there's that feeling of a unit...I think when you get out, you miss that. To me, one thing you want to do, it's like okay, we're all American Veterans, we all have different disabilities and different needs...we're in all different branches of the service and different rank, but we still can feel that camaraderie in that organization. - Kathy (moderate reintegration cluster)

...having somebody who has gone through the same challenges that those people are about to have to go through is really important. The sooner that you get them connected with the wounded vet, the better. - Jack (moderate reintegration cluster)

One participant described the importance of having support from other veterans who admitted having difficulties with mental health issues and were seeking outpatient mental health treatment with her. This support helped with her decision to admit her own mental health difficulties and continue with treatment.

I think it helped with saying, 'Okay, it's alright to ask for help, it's okay because other people do it too.' It doesn't make you better, but it's like, if you're hurt and you want to come forward and say something's out of whack. You're not sure you want to do it, you're not sure what someone is going to say or do, so I think being in an environment, for me, with having other people there, that helped. - Kathy (moderate reintegration cluster)

Social comparison was also evident and supported their own personal outlook on their injuries and abilities.

...I started running into my fellow veterans that had been through the same thing or worse. You know, I still had all my limbs, but a lot of the other guys don't or they were burned horribly. You know, I have always said I'm lucky and I look at these guys and I can say, 'Look at these guys, they have been hurt or injured worse than I have and they are still going.' So I have always said I never have an

excuse to say, 'Poor me.' I go to all these events and these guys are going strong and they are inspiring to me. So, you know, having the fellow vets around me is a huge support. – Samuel (high reintegration cluster)

You know, you hear other people's stories and you go, okay, well maybe mine's not that bad and after you hear someone else's story and you go, 'Oh wow! That's worse than me' and sometimes they hear my story and say, 'That's worse than me.' - Kathy (moderate reintegration cluster)

Too much social support. While it was clear that social support was a facilitator of community reintegration, it was also evident that certain social support can serve as a barrier to reintegration or make the process more difficult. One participant, in particular, noticed that individuals who receive too much social support become dependent upon the support even though they may be capable of much more. In fact, this participant purposefully chose to limit the social support he received from his family during his rehabilitation experiences.

...all I had was friends and I had to do it myself right out the get-go, but that's what I chose to do. I chose not to move to my family to, for the lack of a better term, mooch off of them, to suck their time into helping me...on the outside looking in, for spinal cord injury patients, I've noticed that when family is there and they're waiting on the patient hand and foot because they love them, that is more of a hindrance because once they get home and everybody has to go back to their everyday life, and they find out they have to do it themselves or they just give up and wait. The thing to me is that family should visit but shouldn't over help, I guess you can say. - David (high reintegration cluster)

The possibility of having too much familial support was also noticed by the researcher. One participant's situation illustrated the fine line between family support as a facilitator and family support as a barrier. The participant described his wife and mother-in-law as a huge support to him in home and community activities as he referred to them

throughout the interview and requested that the researcher speak with his wife during the interview to obtain her perspective. When asked how his wife helps him, he stated,

Pretty much with everything. She reminds me to do things. Because I can't drive anymore, she drives me and takes care of my medication and paperwork and everything. – Anthony (low reintegration cluster)

His wife was also very influential in his adapted sport and recreation participation, his only reintegration activity other than going to outpatient therapy sessions.

My wife shows me some stuff she gets...and then we apply for it...my wife arranges for my trips and everything. – Anthony (low reintegration cluster)

While his wife and mother-in-law was a huge supporter, one might consider their support a barrier to the participant's reintegration choices and independent decision-making since his activities are completely managed by his wife, further evidenced by a couple of her responses,

...we can do everything for him...He's still dependent on me still. – Wife of Anthony (low reintegration cluster)

However, it was also noted that his history of brain injury was more severe than other interview participants, the interpretation of this situation is limited to the narrative provided, and the entire context of the participant's living situation and injuries were not known.

Lack of social support. Participants also noted the hindering influence that a lack of social support had on their reintegration. One participant best explains these effects.

...there was nobody even at my home unit to welcome us home, you know. We drove off the flight line in a very uncomfortable monster truck and had to convince somebody into letting my mom in the gate to come pick me up. It was just really frustrating from the beginning. – Sarah (low reintegration cluster)

I guess it's because I don't have, like at home I had my support network, I had my friends, I had my family, I had my mom, my best friend could come over to my apartment and say, 'Get your ass up, we're going to go watch a movie.' Whereas here, I don't really have that... I have a roommate right now... she is kinda like a negative support for me, like if I don't want to go workout or I don't feel like physically get up and do something, I get called things like a 'quitter'... which has greatly affected me. -Sarah (low reintegration cluster)

Stigma. Attitudes of other people and mental health stigma among civilian culture and military culture were also social issues that made successful reintegration difficult. Negative attitudes or people making assumptions about their injuries were the most relevant.

When you get (around) civilians, they have no idea of the injury or how bad you're injured... when I get back they look at me and say, 'Well I don't see any missing limbs or anything like that' and you have to explain, 'Well you know, I've got six or more concussions, I've got 30% (VA disability rating) for TBI, traumatic brain injury. It's hard to explain your injuries to people when they don't understand the concept of it. - Jacob (low reintegration cluster)

I'm in a different country and that makes it a little harder because people here don't understand. If I were back in the States, maybe it's easier. -Anthony (low reintegration cluster)

And then you have those that have PTSD and other minor injuries and a lot of people just really don't see it as any type of big deal. I guess the difference in how people perceive you can be a barrier. - Sarah (low reintegration cluster)

Even though there's more knowledge about and it's more talk about it, there's still a big stigma about it whenever it comes to being in the military. Even as a flight nurse... hearing the things they would say... 'Okay, we had so many in-flight crews, we got two loads, we (have) so many patients, and we have two crazies.' They would just flat out say that, 'We have two crazies.' You know, so there's still a big stigma in the military I think keeps people from wanting to say, or feel that they can say, 'I need help,' and then getting out of the military I see it as well. - Sarah (low reintegration cluster)

I didn't want to be anywhere around my base because I heard things like, 'Oh, she's really not hurt' and even though they didn't know the full scope of what was going on with me especially with the mental issues, because that's not something

that you disclose to everyone. I got a lot of negative feedback from people. It really made me isolate. I didn't have the support. -Sarah (low reintegration cluster)

Personal factors. The second theme that had a large influence on home and community reintegration was personal factors. Although the ICF and SCT frameworks did not serve as an a-priori analytical template, the term "personal factors" was borrowed from these frameworks and deemed appropriate as a cumulative term referring to the participant's general self-efficacy, personal motivation, ability to negotiate barriers, and other personal traits. Many statements relating to personal factors were embedded within their discussions of other contextual influences while other statements reflecting personal factors were made in response to questions specifically asking how their personal outlook affected their ability to reintegrate. General self-efficacy, ability to negotiate barriers, motivation to reintegrate, ability to set goals and self-regulate, and others were critical to the actions they took to reintegrate into their homes and communities.

Self-efficacy. As a facilitator of reintegration, many participants described statements about themselves that reflect their general self-efficacy and their personal belief that they have the skills, abilities, and supports necessary to overcome challenges. Some participants described that these beliefs are a personal trait that has been a part of them for the majority of their lives, but some explained that their personal beliefs were strengthened through their experiences since the military and their injury.

I mean, if you can't be motivated, you're not going to do very much in life. - David (high reintegration cluster)

Over the next few months as I realized that I wasn't going to be able to go back to Iraq, it was at that point that I kind of transitioned to wanting to do as much as I

was still able to do. I mean almost immediately, but then my perspective kind of changed a little bit. But still just a few months after I was injured I had that desire. It's not like I got hurt and I was sitting around a few years and then finally one day decided that "Man, I really need to get out there and get a job." It was since the very beginning. - Nick (high reintegration cluster)

Well, I always tell people you have two choices, you can sit in a corner and cry or you can shut up and get on with life. I have never been a cry baby. So I think my outlook helps me... because of everything I have been going through in the military, I was an angrier, darker person. Then when I died temporarily... and I woke up in the hospital. That really changed my outlook. I think I am more appreciative and more relaxed person than I was before. - Samuel (high reintegration cluster)

I wouldn't say anything held me back. I'm just not that kind of guy. If something is not working, just approach it from a different direction. - Samuel (high reintegration cluster)

Self-worth...to be able to help out as much as I can wherever I could in whatever capacity...selfless sacrifice, that's something that was taught into me and something that I did in the military. - Jack (moderate reintegration cluster)

There's nothing that helps you integrate. You have to find your own way...they talk about all these benefits and all these organizations and all the resources that are out there, but it's up to us to go use them. Nobody made me go to Team Red, White, and Blue. Nobody made me look them up. I just found out about them and made myself do it. - Kathy (moderate reintegration cluster)

I think, sort of long-term, it wasn't an immediate help, but I lost my parents when I was 11 years old. So I think I've learned some level of resiliency. So when this happened after I got through many road blocks, I think those resiliency lessons I learned as a kid helped quite a bit. - Ryan (moderate reintegration cluster)

Overcoming challenges. Some participants described various barriers that made it difficult for reintegration, but they also described their process for working around and negotiating these barriers. For example, two participants discussed their negotiation around Veteran's Affairs (VA) barriers.

(In regards to waiting on the VA to make his house wheelchair accessible)...we have been working on it ourselves a bit at a time over the years, so, I have slowly

been improving my situation myself. I'm not just going to sit here and wait for someone else to do it. – Samuel (high reintegration cluster)

I guess, being stubborn helps. That's helped push me. I say that would be, I'm not going to sit around and wait for the VA to fix me. I'm going to try my best to find a way to do it. - Jacob (low reintegration cluster)

Another participant provided an exemplary description of how self-efficacy can play a role in everyday community tasks as he described his challenge with grocery shopping with a wheelchair.

...some things weren't working like everyday life things such as needing groceries, you know you can't really push the big buggy around in a wheelchair, a manual chair, I guess you could if you had a power chair. But you have to buy enough stuff for three days, ya know, you can fit enough stuff for three days to fit on your lap, ya know, or you make a bunch of trips up to the counter and empty your basket. So that's pretty much the hardest thing I've had to deal with in life since then...I take it in stride...there's not really a whole lot that I can't do. You know if I'm in the grocery store and there's a shelf that I can't reach, I have a reacher in my backpack with me so I can reach up and grab it. So, ya know, I can still pretty much do everything, I just have to do it a little bit different, and to be honest with you, it took me about two years to figure that out. - David (high reintegration cluster)

Motivation to be productive. Personal motivation to seek and maintain their employment when it sometimes was not a necessity was a response that suggested their personal motivation to be productive and provide a better life for their family.

I mean I could have sat around, you know, collecting the VA benefits and hang out while my wife works and we would have been just fine, but I didn't really feel comfortable doing that. So that's something that you know my desire to be productive has been helpful. – Nick (high reintegration cluster)

I guess, you know, I grew up in a family where you work hard whether you need to or not. So I am medically retired myself, but I can't see myself not working. But in terms of, does my medical retirement, will it sustain a family? With that and my wife working, we certainly wouldn't have the quality of life that we do have. - Ryan (moderate reintegration cluster)

Perception of disability. Some participants described positive perception of disability and they were not going to let their disability be a barrier to reintegration.

And in addition I guess my desire to kinda show that even though I got hurt I can still do certain things has been very helpful. So for example I mentioned that I've done that Army 10 Miler a few times and that was a main reason for it, was just to go out and say, 'Here I am.' - Nick (high reintegration cluster)

Goal setting. Setting specific and attainable goals and taking steps to achieve those goals also seemed to be a facilitator of community reintegration. Goals typically revolved around going back to school, excelling at their job, their Olympic aspirations, and goals related to their home and family.

Well yeah, I have been setting goals up for our home and our children. Like, we want to make sure that we get our kids into college and now our son is in college. We had goals for our house like making our bathroom accessible and we got that. We are working on making the back porch fully wheelchair accessible, we just need to get a back door that is wheelchair accessible. So we have all these mini-goals we set and work on and when we get another goal... We always have goals and we always work toward them. So if you don't set yourself a challenge to work for, then what are you doing? - Samuel (high reintegration cluster)

I've narrowed some stuff down to what I'm trying to do. I'm gonna take some art and music classes, and I'm gonna learn how to play the guitar, and also I'm gonna learn how to fly. They're gonna teach me fly fish. - David (high reintegration cluster)

...my goal is to make the Olympic team in 2016 – Samuel (high reintegration cluster)

I'd like to finish my master's degree, well finish...I didn't start it, but I'd like to start and finish my master's degree at some point in time. I'd like to eventually like to become a senior leader in the federal workforce, a senior executive service employee...Those are some of two big goals. – Ryan (moderate reintegration group)

I guess I've become more oriented towards developing realistic, smart goals then following through. So I guess that probably something I've done in the last five or six years. - Ryan (moderate reintegration cluster)

Poor self-efficacy. Personal factors also presented as a barrier or hindrance to community reintegration. In particular, poor general self-efficacy and belief in oneself to overcome barriers made it difficult for many participants to live an active lifestyle and successfully reintegrate into their homes and community. For some, participants described their ongoing and disabling struggle with getting past their self-imposed personal barriers.

So I think we hinder our self. I could say that somebody else hinders me, but I will beat myself, because it's easy to just stay at home. It's easy just to sit and be quiet. It's hard to explain to somebody. - Kathy (moderate reintegration cluster)

...I guess, my motivation can be a big part of it. If I don't really know where the resources are and I'm already feeling down on myself, you know, I'm a freakin' flight nurse, a captain, all these things and now I see myself as nothing! That's not really going to motivate me to get out and do things. The way that I see myself now is not the way I saw myself a couple of years ago. - Sarah (low reintegration cluster)

In contrast, personal barriers had relatively limited effects on their lives especially among the moderate and high reintegration clusters. They acknowledged that they may had limited motivation at times or had trouble with accepting their injuries, but many of these barriers seem to be short-lived or minor in their effects on reintegration.

I'm getting muscle atrophy in my left arm and then I don't (exercise) because come on who exercises like that. I mean a lot of people do but, you know, I go out and go running and I'm like, "Yeah, I'm running too," but I really need to work on my upper body strength and then I don't. It's just me being lazy. - Nick (high reintegration cluster)

I'm not as active as I would like to be. That would be a given. I spend a lot of time as an avid runner before I got hurt and I made some attempts to relearn how to run with the all the high-speed prosthetics that they have but I wasn't successful with it. So that one would be something I wish I would do more, but at

this point in my life, I'm not really down to put the energy into it. - Jack (moderate reintegration cluster)

Oh I'd say early on, I hindered myself in terms of refusing to accept this or that, using the reason to accept that I couldn't be who I was...I think the inability to have control over life in general still hinders me a bit. Those are probably my biggest hindrances. - Ryan (moderate reintegration cluster)

Vague goal-setting. Vague goal-setting without a clear plan of achieving the goals seemed to be an indicator and a contributor to poor reintegration. Some participants have only one or two goals, while other had goals that tended to be revolve around things such as being happier and making more money.

They're not really set in stone, by this date or this time frame kind of goal, but I would like to go back to school to do something different...I'd like to find something that motivates me, or helps me get passionate about life again. You know, just be able to have more happy days than sad days. Not have to call my parents up from time to time...and say, 'Hey, I'm low on funds. Can you help me?' - Sarah (low reintegration cluster)

Yeah, I actually want to start running again hopefully this year...That's it for now, I'm trying to take things slowly. -Anthony (low reintegration cluster)

One person in the low reintegration cluster shared that he had no goals for his reintegration during rehabilitation or currently.

Adapted sports, recreation, and other social programs. Adapted sports, recreation, and other social events were discussed very frequently and with high regard to their reintegration process. These events were examples of participation in community activities, yet these events and programs served a larger purpose than mere participation in activities. Adapted sports, recreation, and other social programs were the vehicle for community reintegration through the development of social supports and increasing self-

efficacy and other personal factors. The programs and events established connections with others (e.g., injured veterans, non-injured veterans, injured civilians) and provided the participants with opportunities to push personal boundaries and realize their own potential. Participants who discussed frequent participation in these events discussed the psychosocial benefits. Adapted sport program and events were particularly helpful with the reintegration process. When one participant was asked if he considered himself reintegrated currently, he responded,

Yeah, I think so, and a lot of that is because of the adapted sports I have been doing because I go out and there are crowds and to do sports you have to go out and see crowds and see people and you have to interact. I think adapted sports has a lot to do with why I am so much better than what I was. - Samuel (high reintegration cluster)

By doing the sports, I met other disabled veterans and people that have been in wheelchairs their entire lives and that pushed me out there into a whole new world and you realize that there is more to life than just sitting in your house in a chair. I met all these people and actually challenging myself and pushing my limits and doing new things... - Samuel (high reintegration cluster)

So the first thing that I learned about being in a wheelchair was wheelchair rugby ...and once they got me out on the court and ya know, I could still see that we could have fun in chairs, and I think my real beginning of what I do today, ya know, I try to stay active. – David (high reintegration cluster)

When I first got injured, I struggled, I wasn't ready, and was still learning my body and after that, I was at the wheelchair games in Spokane, WA and I had that 'ah-ha' moment and ever since then I've been chugging right along. - David (high reintegration cluster)

I was, honestly, in a pretty deep dark arena...and I kinda felt like I was one more bad incident from putting a bullet in my head, to be blunt with you. I went on an adaptive ski trip and that was kinda, for me, being on the side of a mountain, having the freedom of the mountain kinda connected for me the first time that, you know, I'm still as able-bodied as anyone else because I was beating three quarters of the people, the able-bodied people down the mountain. Sort of, from a mindset perspective that connected with my brain and my heart because I still had

them both and I could still be a contributing member to society. - Ryan (moderate reintegration cluster)

...they do a lot of adapted sports and skiing, running, outrigger canoeing, things like that were really critical in, not only getting me healthy and active again, but they got me around people. - Ryan (moderate reintegration cluster)

Other recreation and social programs were also helpful with creating social connections and social supports which were critical in the reintegration process. Social programs consisted of organized events for service members including going to baseball games together, sharing meals together, 5k races, and others.

You know, they take you out with a group who get you away from the hospital environment and you can, sort of, reintegrate and talk about those things that you're not really comfortable talking to people who haven't gone through the same thing that you have. You know, it builds lifelong friendships and relationships just by coming together as a community around a steak dinner. As cheesy as it sounds, it's really beneficial. - Ryan (moderate reintegration cluster)

Social activities, meaning going to a baseball game, having cookouts, or it can be doing 5k runs, or yoga groups, stuff like that. They've been very instrumental for me, and some other people as well, to help in that process because you can go there and identify with so many people...It helps, gives you that feeling that you had when you were in (the military), to be a part of something. - Kathy (moderate reintegration cluster)

It helps me be with other people especially with anxiety and my other stuff and being with other people, it helps...It's only with other veterans for now. I have a bad experience with other people...Well for the events, it's all military guys and I haven't had a chance to be with other regular people. - Anthony (low reintegration cluster)

For some participants, adapted sports and social programs were the some of the only community activities in which they participated.

I did rowing, snowboarding, shooting, biking, there's a lot of sports, even some scuba diving...Right now, I only attend rehab. It's the only thing, rehab and the rec(reation) activities for veterans. For now, that's it. - Anthony (low reintegration cluster)

Researcher: (As a follow-up to the discussion about her participation in various recreation and social programs for veterans) So are there any other activities that you do that make you feel part of your home or community?

Kathy (moderate reintegration cluster): No, it's pretty much it for me.

As an alternative perspective, one participant did not see the benefit of adapted sports and recreation for him and viewed these programs as beneficial for younger injured service members who do not have social support.

That's for the young guys, young kids that are injured and don't have a lot of support structure. I have got a lot of family, friend and work mates that have taken care of me so I don't really need that. I rather it be given to those guys. - *Jack* (moderate reintegration cluster)

Rehabilitation programs and therapists. As participants described their rehabilitation experiences, the quality and type of rehabilitation programs they attended made a difference in preparing them for community reintegration. Some participants explained that their reintegration program was the initial facilitator of community reintegration and taught them how to overcome barriers by getting them involved by using community reintegration interventions and activities. Their continued participation in these activities led to increased social support and increased self-efficacy and other personal factors and, in turn, helped them with their reintegration.

...when I left the military rehab, I could touch my thumb to my pinky and that was it, and they said 'That's your new life, get used to it.' When I was going through civilian rehab, they kept pushing me and they said 'No, don't accept limitations. Keep going and push yourself,' and they introduced me to the sports side of wheelchair life. By doing the sports, I met other disabled veterans and people that have been in wheelchairs their entire lives and that pushed me out there into a whole new world and you realize that there is more to life than just sitting in your house in a chair. I met all these people and actually challenging myself and pushing my limits and doing new things and that's the civilian rehab and the Wounded Warrior Program... - *Samuel* (high reintegration cluster)

I went to Shepherd Center in Atlanta, GA... I had to learn how to bathe, had to learn how to use the bathroom, get in and out of bed, how to hop curbs, get into a car, and you know, when I left rehab, since I was a veteran, they strongly encouraged me to go to the VA...I guess I was the first patient that ever came to them to them (the VA) prepared...Shepherd had done such a good job that even though they said it would take six to seven weeks for me to leave, I left in seven days. And they tested me, and they gave me tasks to do and I passed... - David (high reintegration cluster)

Early on they (Walter Reed) had sort of a community reintegration program. You know, they took us to the zoo, they took us to mall, those sorts of things and then they had adaptive sports, skiing, track and field, swimming. You name it, they pretty much had access to it all. It was in my estimation of this, it was very beneficial to my rehab process...I think in some ways the community rehab, going out into the community and getting used to people staring at us but with a group of us was somewhat very beneficial. You know, getting used to the looks that I got. You know, it was sort of a protected environment because I was with people who were like me, I was with a medical professional so that was quite beneficial as well. - Ryan (moderate reintegration cluster)

Peer mentors in rehabilitation. Peer mentors during the rehabilitation program who were injured service members also assisted with supporting participants. Having mentors early in the rehabilitation process was very influential in beginning the process of reintegration. Serving as a mentor and helping support other injured service members was a common activity of participants as well.

I think going back to my rehab process is, what led me to those activities, is that I had a great set of peer mentors, if you will, that were amputees from other wars from Vietnam, Korea, things like that, who were there, they supported me, they taught me, well I understood the value of volunteering and things like that, but they got me involved in the stuff. Sort of, really ingrained in my mind, should you get the second chance, you better make the most of it...I think that was kinda the biggest piece of it. - Ryan (moderate reintegration cluster)

Yeah, I'll go over, they have mentor workshops and various types of things...I like helping guys out who have been recently injured, or starting to get to through the same challenges that I've already been through...I think that anybody that wants to do it (mentoring), should. They need to have a wide spectrum of people

to be able refer to, to reach out and get a hold of. - Jack (moderate reintegration cluster)

Therapist/client relationship. The relationships established with the therapists within the rehabilitation programs served as a facilitator to reintegration during rehabilitation and after they left the rehabilitation program. Therapists made connections with the injured service members by balancing the therapist and friend roles. Therapists also played an important role of introducing participants to adapted sports and other reintegration experiences.

...I maintained good contacts with the people in Walter Reed in the physical therapy department because I go and run the Army 10 Miler every year with the team that Walter Reed puts together, injured soldiers. And so that was a good support for getting out and, you know, it's only a one day event but we would meet beforehand and meet other injured service members and the physical therapists who support that. So it's really bizarre...It's somewhere between, you know, truly professional relationship and a social, friendly relationship. And you know, I don't really see those people outside of the hospital, I don't really go out for coffee or something on a regular basis but when I do go there it's more than just coming in for, you know, service for my prosthetic or whatever service I need to have done. - Nick (high reintegration cluster)

Actually I found out (about opportunities for adapted sports) from my therapist from Augusta at the VA, they knew that I pushed the limit and I guess she could tell that I'm an adrenaline junkie. And, um, they told me about the winter sports clinic which started out in Aspen and once I got addicted and hooked on skiing, uh, my name was dropped into, I think, Breckenridge is where I learned how to ski. - David (high reintegration cluster)

Insufficient rehabilitation and medical programs. However, participants noted their inability to reintegrate successfully after they attended rehabilitation and medical programs that focused on treating their injuries alone, did not assist them with the making

the reintegration process a lifestyle change, or did not understand how to treat mental health issues in addition to physical injuries.

...the rehabilitation I received while I was at the VA, they just wanted to slap a bandaid and get me out the door. They were not really interested in recovery or long term care, they just wanted to get me stable and gone. That's all they seemed to care about...my primary care provider got some civilian care and the civilian care was much better. They were much more concerned about my long term health care and getting me an actual lifestyle adjustment. - Samuel (high reintegration cluster)

...it was pretty rough because I had to go to all civilian medical people when it came to physical injuries, the PTSD, so they really didn't know how to treat a veteran. They knew how to treat injuries but they didn't know how to treat a veteran with these types of injuries. - Sarah (low reintegration cluster)

...it (rehabilitation) didn't help out at all. I don't think they knew how to work with guys with our injuries, especially since mine are (inaudible) and internal injuries. - Jacob (low reintegration cluster)

Proximity to rehabilitation and medical services. Proximity to strong rehabilitation and other medical programs also made getting adequate medical care and rehabilitation services more difficult. Some participants went to great lengths to obtain adequate medical care.

So, in DC, even though it's a big place, the VA doesn't have too many hospitals in DC, so if you're in the Virginia side of town it's a ways to go. Or one up in Baltimore. Where they're located, the DC area is not very convenient for me, so I went with Walter Reed... Well since I'm in the DC region, Walter Reed is a hospital that's a proximate resource, so I go there or I could go to VA, but I like the Walter Reed hospital. - Kathy (moderate reintegration cluster)

They now have outpatient clinics which are closer to my house. It's not that far of a drive and they're not VA doctors, they're contracted doctors and so they treat you a little bit better than the people at Long Beach. And the sad thing is every veteran here in Southern California knows that Long Beach is one of the worst hospitals so you have veterans there that have to go all the way outside of Long Beach. Some of them fly out of state to other VA hospitals. - Jacob (low reintegration cluster)

School, work, and volunteering. The role of school, work, and volunteer activities was also instrumental with reintegrating into their communities. Similar to the *adapted sports and recreation* and *rehabilitation programs and therapists* themes, school, work and volunteering activities typically assisted with developing social supports and being able to provide support to others. This, in turn, assisted them with being a part of their communities.

...primarily the connections that I made were people that I met while I went back to school...But primarily, I guess what helped me was just meeting new people and going out to activities with new friends that I made at school, and trying to get involved in some of those activities. - Nick (high reintegration cluster)

I've been going to school lately in the last year or so to finish my degree, just my associate's (degree), and that's helped me out a little bit, be a little more social. - Jack (moderate reintegration cluster)

I'm fortunate to work for a company who is very flexible with me...Everybody who works there has a very high, positive energy. There's no one who I would call a 'Debbie-downer'...and for me, that's great. In the military, when you see your buddies and friends, you don't hug them. You may see your buddies out having a beer somewhere and you give each other a hug. So that's very different meeting for work, I can see Ashley and (inaud) she's like 'Hey!' and she gives me a hug...Everybody's just a very positive, upbeat environment and that's good for me. - Kathy (moderate reintegration cluster)

Most meaningful activity? Um, first and foremost, my family is my most meaningful activity. But after that, my work and volunteering in the community...I'm privileged to be able to work where I get to influence and direct policy that directly affects the care of wounded, injured, ill soldiers so I can give back what wasn't there when I went through the process and that transition process...Since I've been out, I was actually one of the original founders, I was the first chairman of (a non-profit organization for veterans). I've chaired a couple of local non-profits in the area...I volunteer at church. Things like that...Mainly for the most part, volunteering to support military related charities. - Ryan (moderate reintegration cluster)

Lack of support at work. Yet other participants recognized that lack of social support, lack of knowledge about mental health issues, and mental health stigma at work was a barrier to job performance, maintaining a job, and creating social connections.

We go through all the training and suicide awareness and prevention and all that stuff, but I tell you what, there's nobody in my work environment that knew me really well that ever saw any signs or ever knew. So, that process for me felt a little isolated or alone because you don't want to say anything, you don't want to go to your boss and go "I think I'm depressed. I'm having these thoughts." You know? It's a tough process to do. - Kathy (moderate reintegration cluster)

... I've read on stories about how you can get breaks for hiring veterans, but some of them are concerned because they don't know what to do if somebody has a trigger with PTSD. They want to hire veterans but they're nervous of hiring someone with PTSD because they're not sure of everything they need...I mean and most civilian companies, does anyone have suicide prevention training? No. Why would somebody at McDonald's need that? - Kathy (moderate reintegration cluster)

Well with this whole reintegrating thing, a lot of vets don't want to come forward and say they have an injury because of, they're afraid they're going to lose their job...Because of the type of jobs they have, they will probably lose them. Most of the jobs my friends have are law enforcement...It's a problem. These are good friends of mine and it's hard watching them suffer knowing that they need to get help and they're not going to do it. - Jacob (low reintegration cluster)

I know how medical people can think. I know what they think about, especially when they're not mental health nurses...I don't want my co-workers to think negatively about me. I can have lack of patience, it doesn't take much to set me off. Who's going to want to hire a nurse who doesn't have patience? - Sarah (low reintegration cluster)

Injuries affect job performance. A few participants noted how their injuries, primarily cognitive and psychological injuries, have made it difficult to maintain their jobs, unless their job provides accommodation.

...my short-term memory is gone. That's really affecting me...I can't remember stuff for work. I have a very technical job and I can't remember all the stuff...Oh it's hurting it right now. I'm holding on (laughs). - Jacob (low reintegration cluster)

Just with my injuries I've had, I had difficulty with being able to keep a job. Being a forgetful nurse who has very little patience is not a good thing...I'm on my fourth job since August of last year (10 months previous). It's not very good. - Sarah (low reintegration cluster)

I worked for a company...that's part-time and it's work as many hours or as little hours that I want to. It's not a pressure to work this many hours a day, it's not on a schedule. It's nice, just a very structured part-time job because if you're having a bad day, you can just call them and say, 'My depression is triggered today.' - Kathy (moderate reintegration cluster)

Yeah, I mean my work has been very supportive in that, you know, there are times that I still struggle with PTSD and things like that and they recognize that I have times when I have phantom pains and things like that are so bad that I can't sleep and they're very supportive... but I'm pretty open and upfront about what's happened to me and they've been fairly understanding. - Ryan (moderate reintegration cluster)

Vocational rehabilitation. Vocational rehabilitation was commonly mentioned as a facilitator to going back to school or finding a job. Many participants discussed how vocational rehabilitation services provided through the VA helped them with finding jobs and funding their education.

Primarily (what) helped was, I did the Voc. Rehab and I mean I thought I would go back to school and paid for it myself but obviously the money from the VA was, you know, spectacular...I was really glad for the Voc. Rehab because that's, you know, grad school down there was really expensive.

The only governmental type program that I'm working with is vocational rehab to try to be able to go back to school to do something different other than nursing. - Sarah (low reintegration cluster)

Voc. rehab will place me in a school and help me just uh, ya know, learn what I'm trying to do and they pay for it all. - David (high reintegration cluster)

Organizations and policies. In many ways, government funded and non-government funded organizations and the policies of the programs within the organizations influenced the process of reintegration. All participants mentioned or

discussed at least one organization that either hindered or facilitated the community reintegration process. These organizations provided one or more of the following programs and services: (a) primary care services; (b) rehabilitation programs and individual therapy services, (c) mental health services, (d) adapted sport, recreation, and social programs, (e) tuition assistance programs, (f) job placement services, (g) case management services, (h) therapy dog placement program, (i) prosthetic services, and (j) accessibility services. The services and programs offered by these organizations were absolute necessities for many of the participants and their reintegration process. It is impractical to provide narratives supporting each of the types of organizations and the influence they had on the participants. Instead, the most commonly discussed organizations and their influence will be represented.

Government funded organizations. The most commonly discussed government funded organizations were Veteran's Affairs (VA), Walter Reed National Military Medical Center, and wounded warrior programs affiliated with a single branch of the military (e.g., Navy Wounded Warrior, Special Operations Command Care Coalition). These organizations offered many programs, services, and policies that benefitted the participants.

...care providers get paid now to take care of their spouses now. They have to go to the local VA hospital...They will come to your house and see how much actual care your care provider gives to the veteran...my wife went from unpaid laborer to being paid to take care of me. – Samuel (high reintegration cluster)

...the (VA) polytrauma unit is excellent. I'll sing their praises all day long. They are very good at addressing the veterans entire, I guess it's the holistic approach. In the poly trauma unit they will say, 'Well you have a head injury and you also have problems walking, and that combined causes this effect.' Which you know,

is a much more common sense way of dealing with injuries. - Samuel (high reintegration cluster)

I really wanted to stay in the Army but nobody could tell me what my career was going to look like...I think that's one of those that hurt me but is now helpful to other people because they fixed that problem...They have a program that's called Continuation of Active Duty and Continuation of Active Reserve where they map out your career in five year increments, things like that. You know what your career is going to look like. - Ryan (moderate reintegration cluster)

...I always wanted to do the college thing...I still have my GI bills from when I was in...my signing bonus was \$62,000 for school. And once I got out, I had 10 years to use that or pass it down to my kids, and since I don't have any kids, I guess I'm gonna have to use it or lose it. - David (high reintegration cluster)

I get a VA pension for being a veteran and I get Social Security, but I mean of course without that I wouldn't be where I'm at today. - David (high reintegration cluster)

...the wounded warrior advocates are really active at Walter Reed... for some individuals who go back to their home stations and do rehab through outpatient therapy at their home station, I don't know what type of access to resources they have. Here in the Washington, DC area it's very visible and in San Antonio I'm pretty sure it's very visible as well. - Nick (high reintegration cluster)

The Navy, the organizations within the Navy, the wounded warrior program, they have a lot of events, they're always inviting people to return. - Anthony (low reintegration cluster)

Special Operations Command Care Coalition and they provide you with a lot of activities. I mean as far as a lot of initiative that come down the line for work or for sport activities or anything like a retreat, they send that all to me. I have a guy that I know well and he'll call if he thinks it's something I may be interested in. - Jack (moderate reintegration cluster)

Barriers to VA programs. However, participants experienced many barriers to receiving support from the VA programs and service which affected their overall reintegration. Many of the barriers related to the overwhelmed VA system in processing

referrals and requests for services. Due to the VA barriers to services, participants discussed seeking out other civilian services for assistance in some situations.

I'll have to say after you retire and you're waiting for your paycheck. That kinda hinders you because you can't do a whole lot when you don't have any money! (laughs). So their answer is you file unemployment, but I'm not unemployed, I'm retired! - Kathy (moderate reintegration cluster)

The VA is very very, I wouldn't say backlogged, but overwhelmed. And when you call to make an appointment with the VA, depending on your percent of disability depends on how long and priority in appointments. Now if you have 90%, 90 to 100% are in the top priority versus someone who was just in the military and got out and just have VA benefits. They are at the bottom of the priority list. - Kathy (moderate reintegration cluster)

I went to the VA and told them, "Hey, I've got problems with PTSD" and they said, "well you have been in combat, that's normal. Bye." So I was like OK...what do I do now? - Samuel (high reintegration cluster)

Yeah, you know, it has been 10 years and I still don't have a housing grant so my house still isn't wheelchair adaptable, accessible. So, you know, that is annoying. But that is not the hospital's fault, that is the paper pusher's fault and all the veterans are having trouble with that so it's not like I am being singled out. - Samuel

I would certainly say that while the (VA) policies are there, the process is inefficient. - Ryan (moderate reintegration cluster)

I had issues with the VA, of course, making sure that my retirement was correct so I could get my proper healthcare which is why I'm not going to the VA (laughs). That's a process in itself and they just piss me off. - Sarah (low reintegration cluster)

Policy barriers. Policies of government funded organizations and gaps in policy also had an influence on home and community reintegration for injured service members. Barriers included insufficient policies that provide support for family members and no policy on receiving retirement pay in a timely manner.

I think policy in the VA as far as buying adaptive equipment has been beneficial to me. I have a basketball wheelchair. I have a hand cycle...I guess the ability to take sick leave, the Family and Medical Leave Act has been beneficial. I would say the policy of the American's with Disabilities Act obviously impacted hugely upon the disabled community as a whole. I would say hiring authority policies at the federal level have benefitted me...I think that one of the policies and things that are lacking is support for the children. So, you know, reintegration when I came home and I lost my leg, my son was five years old, which is a lot for a five year old kid to take in. There was not policy for counseling for him, for counseling for us. - Ryan (moderate reintegration cluster)

You don't know when you going to get your unemployment check. You have no idea. I mean, they promise you it's going to be 30 days from when you retire, but I tell you what, I don't know anyone who gets their first paycheck in 30 days. So that would be my biggest hindrance. - Kathy (moderate reintegration cluster)

Non-government funded organizations as facilitators. Many non-government funded organizations whose mission is to support injured and non-injured service members were catalysts to community reintegration by providing a number of adapted sports, recreation, and other social services and programs. Some of organizations fitting in this category included the Wounded Warrior Project; Team Red, White, and Blue; Disabled Sports USA; Eastern Sierra Disabled Sports; the Law Enforcement Foundation; and the Alethia Foundation.

Just the initial stuff they (the Wounded Warrior Project) provided at the hospital and counseling...to have a familiar face and helped your pain, if you need anything they would provide assistance whether it be t-shirts that they provide you with a care package to get you started and they had guys to go to the local McDonalds down the street and pick up milkshakes... they were friendly faces and they were very active about giving you all the things that the hospital couldn't provide. - Jack (moderate reintegration cluster)

Disabled Sports USA...they do a lot of adapted sports and skiing, running, outrigger canoeing, things like that were really critical in, not only getting me healthy and active again, but they got me around people. For example, when I was at Walter Reed, they'd take us to Maryland to the Chesapeake Bay and we'd

compete outrigger canoe races, things like that and get around people from the community. So I thought that was very beneficial. Wounded Warrior Project provided, sort of, reintegration activities like go to Six Flags or go to a play in the area and they empowered me to take control of my life - Ryan (moderate reintegration cluster)

...Eastern Sierra Disabled Sports...it's more of a re-integration into sports, just showing injured people what they still can do, and they cater to that, but they're more of a TBI and PTSD but I mean they do cater to people in wheelchairs. – David (high reintegration cluster)

One program I wanted to tell you about was Team Red, White, and Blue...They have chapters all over the country and they're a non-profit organization that helps us veterans with reintegration into the community through social activities and sporting activities...I hope to be back to being more social, but I guess that's one of the side effects that you have with depression or PTSD, sometimes you want to withdraw or stay at home and that's the good part of Team Red, White, and Blue. Okay there's stuff going on, the e-mail's there, it's there, there's nothing you have to do but just show up. – Kathy (moderate reintegration cluster)

Group level comparisons. Although the previous themes were noticed in all reintegration clusters to some degree, there were differences between clusters regarding the influence of contextual factors. These comparisons were based on observations noted by the researcher during the interviews with three members of each cluster and are not necessarily representative of all individuals in their associated cluster. The following summaries emphasize the most notable differences between clusters.

High reintegration cluster. The participants from the high reintegration cluster described being very active in many more home and community activities including family activities, adapted sport and recreation, and social activities with other service members and civilians. This cluster had mostly positive rehabilitation experiences that prepared them for reintegration through either military specific rehabilitation programs or non-military specific programs. Overall they reported many facilitators of reintegration

and very few barriers. They acknowledged the existence of potential contextual barriers, but in nearly every situation, they described how they overcame the barriers or found ways around the barriers. These barriers only slowed them down, at most. It was apparent that the high reintegration groups had strong social support systems in regards to family, friend supports, and other injured service members supports. Participants also described how their personal beliefs about themselves helped them with their current level of reintegration. Motivation to reintegrate was also a factor that set them apart from other clusters.

Moderate reintegration cluster. The participants from the moderate reintegration cluster reported being active in their homes and communities, but they also recognized they could be more active and reintegrated. The moderate reintegration cluster reflected qualities of both the high and low reintegration clusters. The participants were similar to participants in the high reintegration cluster in that they reported many facilitators of reintegration such as social supports, personal factors, and participation in veteran support organizations. However, they were also similar to the low reintegration group as they described being hindered by various contextual factors such as (a) financial barriers, (b) VA backlog issues, (c) negative attitudes and support from other people, (d) poor self-efficacy and motivation at times, and (e) hindrances due to psychological injuries. It was also notable that two of the three participants discussed thoughts of suicide at one point in their lives. No other groups mentioned suicide during interviews.

Low reintegration cluster. The participants from the low reintegration cluster had very different rehabilitation experiences than the high reintegration cluster. The

participants who received VA services were not satisfied with the treatment they were provided which forced them to seek non-VA, or small local VA rehabilitation programs. These programs were perceived as being ill-prepared to treat the complex injuries associated with service members. Therefore, the low reintegration cluster participants were not well prepared for home and community reintegration. Opposite to the high reintegration cluster, the participants in the low reintegration cluster reported many more barriers than facilitators. Barriers tended to include problems with (a) personal factors (e.g., low self-efficacy, lack of motivation, poor self-view, inadequate goal setting); (b) the VA system and other rehabilitation services; (c) attitudes, support, and stigma from other service members, civilians, and co-workers; (d) psychological injuries; and (e) problems with obtaining relevant information about reintegration resources. However, facilitators to reintegration were discussed such as receiving services and assistance from veteran support organizations and social support from family and other service members. It should be noted, however, that two of the three participants were less than three years post-injury which may have been inadequate time to fully reintegrate.

Summary of qualitative results. The qualitative phase of the study added to the findings of quantitative results by answering the following research question: how does the influence of contextual factors differ among injured service members with different levels of community reintegration? To answer this question, three participants from each reintegration cluster were interviewed to obtain a better understanding of how various contextual factors influenced their reintegration experiences. Participants provided in-depth descriptions of how environmental and personal factors facilitated and hindered

their ability to reintegrate into their homes and communities. The themes developed from the complete qualitative sample and the between cluster comparisons helped to the answer to the quantitative research question. Thematic analysis indicated that the roles of social support and personal factors (e.g., self-efficacy, personal motivation) were the primary means for being reintegrated into their homes and communities. Other themes included the important roles of adapted sports, recreation, and other social programs; rehabilitation programs and therapists; school, work, and volunteering; and organizations and policies in developing social supports and self-efficacy; therefore, having an important but indirect influence on community reintegration. When the themes between reintegration clusters were compared, participants in the low reintegration cluster reported many more contextual barriers and far fewer contextual facilitators to reintegration than the high reintegration cluster. The moderate reintegration cluster was unique as they reported many facilitators to reintegration, but also reported many barriers as well.

Results of Final Data Mixing

The ultimate purpose of this mixed methods study was to answer the overarching mixed methods research question: To what extent do contextual factors (e.g., personal and environmental) influence community reintegration of injured service members? To appropriately answer this question, the quantitative and qualitative findings were mixed to compare findings and develop a better understanding of the influence of contextual factors in the study sample's reintegration experiences. The results from the quantitative and qualitative findings were merged and placed into comparative matrices to visually

display how both sets of results converge and diverge from each other. See Tables 10, 11, and 12 for the matrices.

Convergent results. As Table 10 and 11 represent, the data mixing process revealed many similarities between the quantitative and qualitative results. Quantitative results indicated that contextual factors, as a whole, had a statistically significant influence on community reintegration for the injured service members who participated in the study. These results indicated that general self-efficacy accounted for a majority of the variance in community reintegration scores and cluster affiliation. The quantitative results also revealed that the impact of services and assistance barriers, physical and structural barriers, attitudes and support barriers, work and school barriers, policy barriers, and perceived level of disability/handicap also significantly contributed to community reintegration scores. The qualitative results supported the quantitative results by indicating that contextual factors also had a very impactful effect, as either a facilitator or barrier, on the participants' ability to reintegrate into their homes and communities. The qualitative themes supported that social support and various personal factors had a large influence on their ability or inability to reintegrate into their homes and communities. Findings also supported that other environmental factors such as adapted sports, recreation, and social programs; rehabilitation programs and therapists; school, work, and volunteering; and organizations and policies had an important effect on the participants' social support systems and personal factors. Therefore, both phases of the study were in agreement that various environmental and personal factors were very influential in the reintegration process. Table 4.8 provides evidence of these agreements.

Table 4.8

Matrix for Comparison of Overarching Quantitative and Qualitative Results

Statistically Significant Contextual Factors	Effect Sizes and Significance*	Supporting Themes	Exemplar Quotes of Facilitators	Exemplar Quotes of Barriers
General Self-Efficacy	.620 ($p < .000$)	Personal Factors	“I wouldn’t say anything held me back. I’m just not that kind of guy. If something is not working, just approach it from a different direction.”	“...I see myself as nothing! That’s not really going to motivate me to get out and do things.”
Services and Assistance	.326 ($p < .000$)	Adapted Sports, Recreation, & other Social Programs	“By doing the sports, I met other disabled veterans and people that have been in wheelchairs their entire lives and that pushed me out there into a whole new world and you realize that there is more to life than just sitting in your house in a chair.”	“That’s for the young guys, young kids that are injured and don’t have a lot of support structure.”
		Rehabilitation Programs & Therapists	“I think in some ways the community rehab, going out into the community and getting used to people staring at us but with a group of us was somewhat very beneficial.”	“...it (rehabilitation) didn’t help out at all. I don’t think they knew how to work with guys with our injuries”

		Organizations & Policies	“...the (VA) polytrauma unit is excellent. I’ll sing their praises all day long. They are very good at addressing the veteran’s entire, I guess it’s the holistic approach.”	“The VA is very very, I wouldn’t say backlogged, but overwhelmed.”
Physical and Structural	.239 (p = .002)	Supported, but not an independent theme	“I would also say that accessible design and accommodation and technology, I’ve benefitted greatly from.”	“...like any person with a disability, missing a leg, in a wheelchair, things like that, stepping up curbs, walking up stairs, non-accessible environments can be somewhat of a challenge.”
Attitudes and Support	.223 (p = .004)	Social Support	“My family is very supportive” “...a good support team on the home front... that makes it a lot easier”	“I got a lot of negative feedback from people. It really made me isolate. I didn’t have the support.”
Work and School	.147 (p = .030)	Work, School, & Volunteering	“I’m fortunate to work for a company who is very flexible with me.” “I guess what helped me was just meeting new people and going out to activities with new friends that I made at school.”	“They want to hire veterans but they’re nervous of hiring someone with PTSD because they’re not sure of everything they need.”

Policies	.141 (p = .036)	Organization & Policies	“I get a VA pension for being a veteran and I get Social Security...without that I wouldn’t be where I’m at today.”	“I would certainly say that while the (VA) policies are there, the process is inefficient.”
Perceived Level of Disability/Handicap	.126 (p = .049)	Personal Factors; other comments	“I mentioned that I’ve done that Army 10 Miler a few times and that was a main reason for it, was just to go out and say, ‘Here I am.’”	“...my short-term memory is gone. That’s really affecting me...I can’t remember stuff for work.”

Note: * Main effects for self-efficacy and environmental factors obtained from the MANCOVA model Main effect for perceived disability/handicap obtained from the MANOVA model.

The data mixing process also revealed consistencies between the two phases in regards to between cluster comparisons. The quantitative analyses indicated significant differences between the clusters’ environmental barrier factor scores and general self-efficacy scores, types of injury (e.g., SCI, BI, PTSD, depression, GAD), and suicidal ideation. The qualitative analyses revealed stark differences between the clusters (as represented by individual experiences) in their explanations of the impacts of contextual barriers and facilitators to reintegration. The presence of suicidal ideation between clusters was also confirmed as the only participants who mentioned suicide were participants in the moderate reintegration group (i.e., quantitative analyses indicated the moderate reintegration cluster had significantly more participants with a history of suicidal ideation). Evidence of the between group comparisons and consistencies is represented in Table 4.9.

Table 4.9

Matrix for Comparison of Results between Reintegration Clusters

	Low Reintegration Cluster	Moderate Reintegration Cluster	High Reintegration Cluster	Summary of Thematic Differences between Clusters
Self- Efficacy	2.63 (SD=.58) _a	3.59 (SD=.57) _a	4.44 (SD=.35) _a	High and moderate reintegration cluster participants demonstrated higher self-efficacy, more motivation to overcome challenges, and were better at goal-setting.
Services & Assistance Barriers	3.37 (SD=1.86) _a	1.59 (SD=1.32) _a	.63 (SD=.82) _a	Low and moderate reintegration cluster participants described more detrimental effects of insufficient rehabilitation services and poor access to health programs.
Physical & Structural Barriers	4.85 (SD=2.04) _a	3.02 (SD=2.01) _a	1.25 (SD=1.64) _a	Many participants with physical disabilities described physical accessibility

Attitudes & Support Barriers	3.70 (SD=2.72) _a	2.86 (SD=1.90) _b	1.00 (SD=1.22) _{ab}	issues, but participants from the low cluster were less adept at negotiating these barriers. Low and moderate cluster participants described less social support and more difficulty with negative attitudes and stigma from others.
Policy Barriers	3.60 (SD=2.59) _a	2.46 (SD=2.29)	1.10 (SD=.93) _a	Low and moderate cluster participants were more hindered by their difficulties with accessing VA programs regulated by policy.
Work & School Barriers	2.55 (SD=2.92) _a	1.86 (SD=2.16) _b	.52 (SD=.58) _{ab}	Low and moderate cluster participants described more difficulty with maintaining their jobs due to poor support at work.
Perceived Level of Disability/ Handicap	3.10 (SD=.73) _a	2.59 (SD=.95)	2.00 (SD=1.41) _a	Participants in low and moderate reintegration cluster discussed being more affected by their injuries.

Suicide Ideation*	4 (21%)	13 (68.4%)	2 (10.5%)	The only two participants who mentioned suicide were in the moderate reintegration cluster.
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Note: Between cluster comparisons for self-efficacy and the environmental factors obtained from the MANCOVA LSD post-hoc tests. Between cluster comparisons for perceived disability/handicap and suicide ideation obtained from MANOVA LSD post-hoc tests. Mean cluster scores sharing a common subscript are statistically different ($p < .05$). * indicates a significant Pearson Chi-Square test ($p < .05$). Self-efficacy was measured by the NGSE on a 5 point Likert-type scale (higher score indicates higher self-efficacy). Barriers were measured by the CHIEF-SF consisting of a 5 point Likert-type scale (0= never a barrier, 4= daily barrier) multiplied by a 2 point scale (1= little problem, 2= big problem) (range = 0 – 8; higher score indicates a larger barrier)

Divergent results. However, divergent results were also discovered after data mixing. The disagreements were noted in the relative contribution of each contextual factor to community reintegration. Self-efficacy’s effect as a primary, contributory factor was undeniably confirmed in each phase of the study. However, the role of other contextual factors were confounded. For example, quantitative analyses indicated that the Attitudes and Support factor was a significant contributor, however, it did not contribute as much as other factors (e.g., Physical and Structural and Physical and Structural). In contrast, the qualitative analyses indicated that social support, along with various personal factors, were the most critical in the process of reintegration. Although the Attitudes and Support factor and the Social Support theme is not necessarily the same concept in terms of their operationalization, they both refer to the attitudes of others and the social supports a person receives. There were inconsistencies in the relative contributions of other contextual variables as well. When interpreting the mixed results,

the reader should consider that the contextual factors and themes being compared were very similar, but not identical. Table 4.10 compares the primary findings of the two phases in the study.

Table 4.10

Comparison of Relative Importance according to Quantitative and Qualitative Results

Statistically Significant Contextual Factors (MANOVA/MANCOVA results*)	Statistically Significant Contextual Factors (Discriminant analysis results*)	Themes
General Self-Efficacy (.620)	General Self-Efficacy (.685)	<i>Primary Contributors:</i> Social Support Personal Factors (e.g., self-efficacy, motivation)
Services & Assistance (.326)	Services & Assistance (.076)	<i>Secondary Contributors:</i>
Physical & Structural (.239)	Attitudes & Support (.058)	Adapted Sports, Recreation, & other Social Programs
Attitudes & Support (.223)	Perceived Level of Disability/Handicap (.057)	Rehabilitation Programs & Therapists
Work & School (.147)	Policy (.007)	School, Work, & Volunteering
Policy (.141)	Physical & Structural (.005)	Organizations & Policies
Perceived Level of Disability/Handicap (.126)	Work & School (.0007)	

Note: *Effect sizes reported. All effect sizes were significant ($p < .05$).

When the results of the two phases were mixed, only one discrepancy was found regarding injury types between clusters. Even though chi-square analysis indicated more participants in the moderate reintegration cluster had PTSD, depression, and GAD than

expected by chance, the low reintegration cluster seemed to be more impacted by their psychological injuries than the moderate and high reintegration clusters. Chi-square analysis also indicated differences regarding SCI and BI; however, qualitative analysis did not reveal notable differences between clusters.

CHAPTER 5

DISCUSSION

This dissertation aimed to identify and explain the influence of contextual factors on community reintegration among service members who have sustained physical and/or psychological injuries while serving in the GWOT. Using an explanatory sequential mixed methods framework, the study used both quantitative and qualitative procedures to collect and analyze data and then mix the findings to better address the overall research purpose. Quantitative methods were used to identify clusters of injured service members based on their community reintegration scores and to identify contextual factors that were statistically significant contributors to their level of reintegration. Qualitative methods were used to build upon the quantitative findings by gaining a better understanding of how contextual factors contributed to participants' experiences with home and community reintegration, especially the role of contextual factors as facilitators. The following sections include a summary of the study's findings and their link to the conceptual and theoretical frameworks, existing literature relevant to the study of injured service members, and implications for practitioners and organizations who provide programs for injured service members.

Summary of Primary Findings

Through a mixed methodological approach, the study successfully identified contextual factors that influenced community reintegration and explained their effects on injured service members. The quantitative results identified seven contextual factors that

significantly influenced community reintegration and discriminated between injured service members who had low, moderate, and high reintegration scores. The qualitative results identified six themes and created a textural description of the roles of various contextual factors in the reintegration process. Then, qualitative comparisons between reintegration clusters were made to better understand how their experiences differed. The qualitative results also added to the understanding of how contextual factors acted as facilitators of reintegration.

The mixing of the quantitative and qualitative data revealed relatively consistent findings between the study's phases and concluded that contextual factors are highly influential in the process of home and community reintegration for injured service members. When individual contextual factors were considered, self-efficacy and other personal factors were essential to reintegrating and overcoming challenges in the process. In general, injured service members who had high self-efficacy reported fewer barriers to reintegration and were able to reintegrate more successfully. Similarly, those who demonstrated low self-efficacy reported more barriers and were less likely to successfully reintegrate. Despite some conflicting evidence between study phases, the role of social support and attitudes of others was also an integral factor in participating in reintegration activities and feeling connected at home and in the community. Service members who were moderately to highly reintegrated reported having strong support from family, friends, and other service members. Those who were lowly reintegrated reported inadequate social support and were hindered by the attitudes of others towards them.

Summary of Secondary Findings

The qualitative phase of the study also clarified other quantitative findings by explaining additional contextual factors such as the role of services and assistance, the impact of work and school environments, the effects of policies of organizations, and physical and structural environments.

Various services and other assistive programs (e.g., rehabilitation programs; adapted sports, recreation, and other social programs) played a major role in providing resources and opportunities to increase service member and non-service member social supports, self-efficacy, personal motivation, and learning how to overcome challenges. Rehabilitation programs and individual therapists who challenged injured service members to overcome personal and environmental barriers, provided reintegration resources and information (i.e., primarily resources and information on adapted sports, recreation, and other service member support programs), and reintegration experiences during rehabilitation were helpful with preparing participants for home and community reintegration. Injured service members who had piecemealed rehabilitation experiences (i.e., a combination of therapy services in various programs), or attended rehabilitation programs that were ill-equipped to address the complex physical and psychological injuries (i.e., non-holistic approach) of service members expressed more difficulty with reintegrating. Adapted sports, recreation, and other support programs who serve injured service members were essential as well. These services enabled participants to be physically active, make social connections with service members and non-service

members with physical and psychological injuries, and helped them with realizing personal potential.

Work and school environments were also important in the reintegration process. Participants who had supportive employers and fellow employees described feeling a part of the work environment and reported increased social supports by developing work friends. Jobs or companies who had a better understanding of the participants' physical and psychological injuries and employed injured service members part-time and allowed flexibility in their work schedule were the most beneficial. However, one reason for the flexibility was due to the injured service member being open with their employer about the effects of their injury such as the effects of PTSD and depression and how it affects their daily lives and job performance. Participants who withheld information from their employer about their injuries described less satisfaction with their job and had more difficulty with maintaining a job. Stigma and negative attitudes from co-workers towards individuals with mental health issues seemed to hinder their decision to be open about their psychological injuries, therefore, affecting their job satisfaction and performance. Going back to school also served as a facilitator of reintegration primarily by creating opportunities for service members to interact with other people and create social connections. In some cases, work and volunteering helped injured service members with reintegrating by enabling them to give back to other injured service members through their work or volunteer activities. These work or volunteer efforts helped them with establishing connections with others and maintaining the sense of selfless sacrifice associated with their previous military service.

Policies of organizations also played a key role in the reintegration experiences of injured service members. Participants who were moderately to highly reintegrated reported being more supported by policies of organizations such as the VA and other service member support organizations. However, many participants described the struggles of receiving medical and other support services that are mandated by legislation and policies. One participant best described this situation by stating, “I would certainly say that while the (VA) policies are there, the process is inefficient.” The only gap in policy reported related to policies supporting programs for family members of injured service members, particularly their children. Given the importance of family support in the reintegration process, developing policies that support programs for family members has the potential to greatly benefit the injured service member’s reintegration.

Finally, physical and structural environments had an effect on community reintegration. Physical and structural barriers were significantly related to community reintegration, but it was not strongly supported in the qualitative phase. However, participants did occasionally describe how the natural environment facilitated community reintegration, such as being in nature and feeling free on the side of a mountain during a skiing program. Participants with physical injuries also described benefitting from various structural accessibilities, such as curb cuts and accessible buildings. On the contrary, environments such as sand and gravel and non-accessible buildings continue to be hindrances to mobility and access, while crowds, loud noises, and other unexpected environmental features triggered symptoms of PTSD and hindered their participation in certain activities.

Connection to Frameworks

The results of this study are consistent with its conceptual and theoretical frameworks thus adding to the plausibility of interpretation of the results. The ICF framework supports that many aspects affect a person's ability to function and participate in life activities. One key aspect of the ICF framework is contextual factors. Contextual factors consist of environmental and personal factors although the ICF has not fully classified personal factors. Environmental factors have been classified into various domains and components within the ICF. The domains include (a) products and technology, (b) natural environment and human-made changes to environment, (c) support and relationships, (d) attitudes, and (e) services and each of the domain's components can be a facilitator or barrier. The results of this study are in agreement with the ICF framework. Each of the ICF's environmental domains was evident in the findings of the study and many facilitators and barriers of community reintegration were identified and explained. However, the most relevant findings as related to the ICF's environmental factors included services, support and relationships, and attitudes. While the products and technology and natural environment and human-made changes to the environment domains were present, the social components of the environment were the most impactful to full participation in home and community activities.

The SCT framework also supports the results of this study. SCT posits that a person's behavioral patterns are influenced by interactions between internal personal factors and environmental influences. Compared to the ICF, the SCT provides a much

better indication of personal factors that influence behavior. Personal factors include: (a) personal characteristics, (b) emotional arousing/coping, (c) behavioral capacity, (d) self-efficacy, (e) outcome expectations, (f) self-regulation, (g) observational learning, and (h) reinforcement. This study found evidence to support many of the SCT's internal personal factors, most notably, personal characteristics (e.g., cognitive functioning such as memory and clarity of thoughts, personal motivation), emotional arousing/coping (e.g., use of humor, positive thinking, meditation), self-regulation (e.g., ability to set realistic and tangible goals), and observational learning (e.g., finding benefit in peer mentors and finding relevance to their own lives). SCT also supports that self-efficacy is a leading personal factor in behavior. The study strongly supports that self-efficacy plays a large role in community reintegration behaviors; however, this study does conflict with SCT in regards to self-efficacy related to a specific task or behavior. This study found that *general* self-efficacy was a statistically significant variable in the quantitative analyses. The qualitative data also supported the role of general self-efficacy as participants referred to their general believe that they have the skills and ability to control circumstances and overcome challenges. However, this divergent finding may be due to the measure used in the quantitative study (i.e., New General Self-Efficacy scale) and the manner in which the interviews were completed. Interview questions tended to refer to general reintegration instead of specific reintegration tasks.

Connection to Previous Studies

This study supports much of the literature discussing the reintegration of injured service members and the effects of contextual factors on community reintegration. The

findings from this study are in agreement with much of the literature on community reintegration that reports many injured service members struggle with reintegration after injury (Resnik et al., 2011; Resnik & Allen, 2007; Resnik et al., 2012; Sayer et al., 2010). Approximately 62% percent of the sample (32 out of 51) from this study were categorized as low to moderately reintegrated, although participants from all groups discussed some difficulties with reintegration since injury. Similar to Resnik and colleagues (2009), this study also found that reintegration scores varied according to type of injury, specifically among service members with SCI, BI, PTSD, depression, GAD, and participants with two or more injuries. Specifically, chi-square tests indicated that more individuals with these injuries were represented in the low and moderate reintegration groups than were expected by chance.

This study supports the literature on the impact of environmental factors, especially the role of social support among injured service members. Social support from family, friends, and other service members played an integral role in community reintegration of injured service members much like previous studies regarding social support and quality of life (Yazicioglu et al., 2006), social support and suicide prevention (Bryan et al., 2010), and preference towards mental health services utilizing family-based interventions (Khaylis et al., 2011). The results of this study also support the social benefits and sense of camaraderie associated with participation in adapted sports and recreation among injured service members (Hawkins et al., 2011; Mowatt & Bennett, 2011). This study also found a negative correlation between environmental barriers and community reintegration, although the types of barriers for injured service members

differed somewhat from the top barriers identified in other studies with civilians with SCI (Lysack et al., 2007; Whiteneck et al., 2004).

This study contributes to the literature regarding the impact of personal factors on recovery from traumatic experiences. Similar to Benight and Bandura (2004), higher self-efficacy was related to the perception of being able to overcome challenges and lower emotional distress. This was especially evident among participants in the high reintegration group who had high general self-efficacy scores, scored lower on all environmental barrier factors, was more successful at negotiating barriers, and reported less impact from their psychological injuries.

Therefore, the findings from this study, in addition to the previous literature, supports that community reintegration is a much more complex process than the injured service member's ability to adjust to his/her injuries and impairments. Instead, community reintegration is largely dependent on the injured service member's ability to manipulate their own intrapersonal context, interpersonal interactions, and inter-environmental interactions. The injured service member's ability to adjust to and utilize those internal and external contextual environments will predict his/her success with reintegration. For example, individuals who are proficient at self-regulating (e.g., being motivated and finding motivation, overcoming challenges and negotiating barriers), seeking and establishing critical social supports, and maximizing their social and physical environments are more likely to reintegrate with greater success compared to those who are less proficient at one or more of these skills. While some of these skills are inherent to the individual and their particular background, other skills can be learned and practiced

which explains the reported benefits of participation in rehabilitation, adapted sports and recreation, and other support programs within this study. The next section of this discussion will include some programmatic recommendations for assisting injured service members with developing the skills necessary for reintegration after injury.

Practical Implications

Many implications for practice can be drawn from this study regarding inpatient and outpatient rehabilitation programs, recreational therapy programs, and other support organizations including governmentally funded programs and non-governmentally funded programs.

Suggestions for rehabilitation programs. Rehabilitation programs have the potential to be the first facilitators of home and reintegration for injured service members. Many participants in this study discussed how physical and mental health rehabilitation programs helped them with recovering from injury while also teaching them how to make a lifestyle change that supports active living. Rehabilitation programs that followed a holistic and ecological approach to treatment, not merely treating their injuries, were perceived to have a greater impact on their successful reintegration. Providing opportunities for injured service members to practice community reintegration, such as community outings and adapted sports programs, were the first steps towards creating active social and physical lifestyles after injury. Likewise, participants who received rehabilitation programs that did not focus on a lifestyle change and did not adequately consider their psychological injuries in addition their physical injuries struggled with reintegrating back into their communities. Rehabilitation programs should consider

implementing programs that address the contextual influences to reintegration with particular focus on providing opportunities to increase self-efficacy and increase social supports. Properly educating and training family members on the injuries of their service member and how they can help with them with reintegrating could be beneficial. Many participants reported the benefits of having peer mentors who were injured service members and getting involved with adapted sports and other social programs during rehabilitation. These programs increased their social support system and assisted their sense of accomplishment and realization of their own potential. Therefore, rehabilitation programs will benefit from establishing peer mentoring programs, sport and recreation opportunities, and social programs. Collaborations with organizations that support injured and non-injured service members may be instrumental with providing these programs. These organizations may include adapted sports organizations such as Paralympic sport clubs, the Wounded Warrior Project, and other wounded warrior support programs. Making connections with these resources during rehabilitation will further assist the transition to their home and community.

Suggestions for recreational therapy. The results of this study also have implications for the field of recreational therapy. One of the primary roles of recreational therapists and other recreation and leisure professionals is to help guide people towards active and fulfilling lifestyles through participation in recreation and leisure. To become effective therapeutic service providers, an understanding of the physiological, psychological, social, and environmental factors that influence participant behaviors is necessary. Social-ecological frameworks such as the ICF and SCT can provide a

theoretical understanding of human behavior and help tailor therapeutic programs to maximize the personal and environmental impact on the participant. Recreational therapists are in a unique position as they commonly provide services that are holistic in nature and do not solely focus on a person's injury. According to the current study, rehabilitation services that were holistic in nature and provided opportunities for psychological healing as well as physical skill building were preferred and viewed as more beneficial than services that did not have this focus. Therefore, recreational therapy services should consider the contextual influences that effect injured service members. Considering the injured service members' personal self-efficacy and self-regulation, social and physical environments, and their knowledge and ability to manipulate those internal and external environments will maximize the therapeutic benefit of recreational therapy services on the injured service member participants.

Therefore, one suggestion for recreational therapist relates to goal-setting. Results indicated that injured service members who were less reintegrated either had no personal goals or their goals were not specific and attainable. The recreational therapist has a great opportunity to help injured members with developing person-centered rehabilitation goals as well as personal goals that are applicable after discharge from the program. This will entail assessing the needs of the service member and working with the injured service member to create specific and tangible goals that can be accomplished during the program as well as goals that support an active and integrated lifestyle after the therapist is no longer with the participant. If possible, continuous follow-up with the service member after services are rendered may also help with reintegration.

Although not a primary finding in the study, participants reported being somewhat overwhelmed by the resources available or unaware of the resources that will help them. Following the person-centered approach to treatment, recreational therapist should assist injured service members with locating meaningful and relevant reintegration resources matched with their interests and needs. This may include information on support organizations, adapted sports programs, social events, and VA policies and programs, among others. As indicated in the study, these types of organizations and programs provide a tremendous benefit to injured service members by assisting their reintegration. Similarly, recreational therapists will also benefit injured service members by reaching out to or developing adapted sports and recreation programs. This study has supported that these types of services help promote the development of physically active and socially active lifestyles while also helping participants with realizing their capabilities particularly through interactions with other injured service members. Recreation therapists should be the professionals who need to take the lead with these programs.

A final suggestion is to reduce variation in treatment approaches across programs serving injured service members and provide participants opportunities to excel. One informed participant summarized this point during the closing conversation of an interview,

“I wholeheartedly believe in rec therapy. I think the community integration, the adapted sports, are, I’ve known so many of my peers and friends that have benefitted from it that, you know, first time coming down a mountain, or first steps running or whatever it is, sort of changed their life... Yeah, it’s just, you know, what I think you guys do is phenomenal. I don’t think it’s understood enough. I think from the VA perspective, it’s always been interesting to me, the VA doesn’t have a standard rehab model, per se, and I could go to a place like Palo Alto and I swear they have a million rec therapists and I could go to a place

like Long Beach, California, they have a couple and they're like playing cards around a table. Come on, you guys aren't using these guys to their capabilities!

Recreational therapists need to fully consider and evaluate if the programs being providing are meeting the needs of their participants, helping them gain functional skills, community reintegration skills, and promoting psychosocial development. As the data suggests in this study, therapists have a unique opportunity to impact the reintegration experiences of injured service members and any steps to evaluate and improve services should be taken and considered carefully.

Suggestions for support organizations. Government supported and non-government funded support organizations for injured service members had a significant impact on the participants' community reintegration. As a facilitator, support organizations such as the Wounded Warrior Project; Team, Red, White, and Blue; Disabled Sports USA; Eastern Sierra Disabled Sports; and other non-governmental organizations were instrumental in providing services that helped with creating opportunities for the development of social support and self-efficacy. These types of organizations should continue to reach out to injured service members in rehabilitation programs as well as injured service members in the community. As one participant stated, "The sooner that you get them connected with the wounded vet, the better." Support organizations should make attempts to establish connections with service members as early as possible. One way of doing this is to establish relationships with rehabilitation and transitional programs to make the organization visible to injured service members as well as therapists who can encourage and help injured service

members with becoming active within the organizations during and after rehabilitation. Inter-organizational collaboration may also be helpful with maximizing social connections and positive impact on service members.

Although the findings of this study alone is not sufficient to suggest changes to policies and programs within government supported organizations such as the VA, this study did indicate that the policies and procedures for the provision of medical, rehabilitation, financial support programs, and other support services should be reviewed. Many participants in this study, despite their reintegration level, experienced challenges and barriers to receiving adequate services. Many participants attributed these challenges to the VA being overwhelmed and inefficient. Many participants were forced to seek other medical and rehabilitation services that were too often inadequate and ill-prepared to treat the complex injuries of service members. Many service members benefitted from participating in programs such as Walter Reed National Military Medical Center and other large, well-known centers; however, many service members did not have access to this caliber of program. Increasing access to adequate care for the injured service member as well as his/her family should be a top priority within government funded agencies.

Future Research

This project provided a general understanding of how various contextual factors impact the community reintegration of injured service members. However, additional studies are necessary to further understand the impact of specific environmental and personal factors on the reintegration experiences of injured service members. For

example, future studies could focus on teasing out some of the divergent findings of the current study to obtain a better understanding of contextual factors such as the influence of perception of disability, specific public and veteran-specific policies, and physical and structural environments on community reintegration. A study with a larger sample size with more powerful statistical analyses and additional interviews with participants within the reintegration groupings may assist in drawing these conclusions.

Given the large proportion of males who are injured in the GWOT, a study with injured female service members may provide additional insight into the reintegration process and aid in understanding the needs of women who are adjusting to their injuries and environments. Limited programs specifically focusing on the needs of injured female service members were noted during the sampling procedures of the current study; therefore, empirically supported suggestions for this area of programming may need to be addressed.

The prevalence of suicide within the current study warrants additional investigation. The moderate reintegration cluster in particular was more likely to have experienced suicidal ideation compared to service members in the low and high reintegration clusters. It is unclear as to why this pattern existed. Studies investigating the contextual experiences and processes that leads to suicidal ideation may help with understanding how to prevent suicide in the military.

The social role of establishing and maintaining social identity should also be investigated further in future studies. The current study provided some evidence as to the importance of reestablishing their military identities through their participation in various

programs and organizations with other service members. However, the importance of maintaining their military identity among injured service members who have been forced to medically retire is not well understood by this study alone. Additional studies could further investigate the importance of maintaining their military identity or the impact of the loss of their military identity.

Since this study indicated contextual factors are important in the reintegration process, programs with a socio-environmental focus should be developed and evaluated to further understand how to assist injured service members with their reintegration. Since many rehabilitation, transitional, and community-based programs are already in place, additional studies could focus on evaluating existing programs to determine the extent to which they are assisting injured service members with reintegrating.

Although community reintegration is an important outcome, additional studies on more specific short and long-term effects of rehabilitation and other support programs are necessary. Examples of additional research foci include the evaluation of programmatic effects on decreasing impairments resulting from injury, increasing functional skills, decreasing symptoms of PTSD and other psychological injuries, increasing utilization of mental health services, improving employment rates, improving family relationships, and other long-term effects. Policy makers and program developers with the VA and other organizations will likely value these research studies.

In regards to improving the measurement of community reintegration, development of a short-form of the CRIS or other community reintegration measure

would be beneficial by limiting the length of surveys, reducing respondent fatigue, and allowing additional measures to be included for multidimensional studies.

Study Limitations

Since the study focused on obtaining a robust understanding of the reintegration experiences of a sample of injured service members, it is limited in its generalizability to the larger population of injured service members. The sample size was adequate for the analytical procedures employed; however, a larger sample size would have allowed for more powerful statistical techniques to be implemented to more accurately determine the effects of various contextual factors on community reintegration. The between cluster comparisons during the qualitative phase of the study are also limited since only three participants were interviewed within each cluster. The three individuals may not be adequate to draw conclusions representative of all individuals within their respective cluster. Additional limitations may be due to the sampling procedures. For example, the manner in which the participants were recruited may have contributed to an over-representation of participants who were active in adapted sports and recreation programs since a large number of Paralympic and other adapted sports programs were contacted for participant recruitment. Another limitation is that injury types were self-reported. The researcher was unable to verify if the participant, in fact, met the criteria for diagnosis with a particular disorder or injury. The reader should consider this limitation when interpreting results.

APPENDICES

Appendix A

Community Reintegration of Injured Service Members subscale sample items (incomplete list of items due to the number of items in the complete scales)

Extent of Participation (7 point scale: more than once per day to never)

1. How often did you have a problem keeping track of daily tasks and activities?
2. How often did you engage in hobbies?
3. How often did you exercise or do light to moderate physical activity, such as walking, for at least 30 minutes?
4. How often did you get enough sleep?
5. How often did you take care of what you needed to do for your pets?
6. How often did you forget where you put something?
7. How often were you irritated by other people?
8. How often did you feel that others misunderstood what you were trying to say?
9. How often did you fulfill all of the duties of your job?
10. How often did you get together, in person, with friends who are non-veterans?
11. How often did you do your chores where you lived?
12. How often did you accomplish less in your day than you would have liked?
13. How often did you read or watch the local or world news?
14. How often did you take a bath or shower?
15. How often did you eat fruit or vegetables?
16. On average, how often did you participate in recreational activities, not including watching TV?
17. How often did you go to crowded places?
18. How often did you find yourself easily frustrated by things that other people said or did?
19. How often were you able to do several things in a row, such as following directions or doing several tasks one after the other?
20. How often did you feel peaceful or calm?

Satisfaction with Participation (7 point scale: Very unhappy to very happy)

1. How satisfied were you with your friendships?
2. How satisfied were you with the amount of time you spent in recreational activities, not including time spent watching TV?
3. How satisfied were you with your ability to remember things, like where you put something?

4. How satisfied were you with your time management?
5. How satisfied were you with the way you managed your stress level?
6. How satisfied were you with your relationship with your supervisor at work?
7. How satisfied were you with your ability to make yourself understood?
8. How satisfied were you with the amount of chores you completed where you lived?
9. How satisfied were you with your participation in exercise or light to moderate physical activity, such as walking?
10. How satisfied were you with the amount of time you had with friends?
11. How satisfied were you with the amount of time you spent with other people?
12. How satisfied were you with your level of involvement in hobbies?
13. How satisfied were you with your ability to relax and unwind?
14. How satisfied were you with your patience with others?
15. How satisfied were you with your ability to concentrate on what you were doing?
16. How satisfied were you with how you did your day-to-day activities?
17. How satisfied were you with the way you assisted friends, neighbors, or relatives that didn't live with you?
18. How satisfied were you with your motivation and initiative to start new projects or take care of day-to-day tasks or chores?
19. How satisfied were you with the way you got along with people other than family?
20. How satisfied were you with the way that you took care of your health?

Appendix B

The Craig Hospital Inventory of Environmental Factors (CHIEF) measure

	Daily	Weekly	Monthly	Less than monthly	Never	Not applicable	Big problem	Little problem
*1. In the past 12 months, how often has the availability of transportation been a problem for you? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
2. In the past 12 months, how often has the design and layout of your home made it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
3. In the past 12 months, how often has the design and layout of buildings and places you use at school or work made it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. In the past 12 months, how often has the design and layout of buildings and places you use in your community made it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*5. In the past 12 months, how often has the natural environment - temperature, terrain, climate - made it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>

<p>*6. In the past 12 months, how often have other aspects of your surroundings - lighting, noise, crowds, etc - made it difficult to do what you want or need to do?</p> <p style="padding-left: 40px;">When this problem occurs has it been a big problem or a little problem?</p>	<p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p><input type="radio"/> <input type="radio"/></p>
<p>*7. In the past 12 months, how often has the information you wanted or needed not been available in a format you can use or understand?</p> <p style="padding-left: 40px;">When this problem occurs has it been a big problem or a little problem?</p>	<p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p><input type="radio"/> <input type="radio"/></p>
<p>8. In the past 12 months, how often has the availability of the education and training you needed been a problem for you?</p> <p style="padding-left: 40px;">When this problem occurs has it been a big problem or a little problem?</p>	<p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p><input type="radio"/> <input type="radio"/></p>

	Daily	Weekly	Monthly	Less than monthly	Never	Not applicable	Big problem	Little problem
*9. In the past 12 months, how often has the availability of health care services and medical care been a problem for you? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
10. In the past 12 months, how often has the lack of personal equipment or special adapted devices been a problem for you? Examples might include hearing aids, eyeglasses or wheelchairs. When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
11. In the past 12 months, how often has the lack of computer technology been a problem for you? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*12. In the past 12 months, how often did you need someone else's help in your home and could not get it easily? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*13. In the past 12 months, how often did you need someone else's help at school or work and could not get it easily? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. In the past 12 months, how often did you need someone else's help in your community and could not get it easily? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*15. In the past 12 months, how often have other people's attitudes toward you been a problem at home? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*16. In the past 12 months, how often have other people's attitudes toward you been a problem at school or work? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. In the past 12 months, how often have other people's attitudes toward you been a problem in the community? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
18. In the past 12 months, how often has a lack of support and encouragement from others in your home been a problem? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>

	Daily	Weekly	Monthly	Less than monthly	Never	Not applicable	Big problem	Little problem
19. In the past 12 months, how often has a lack of support and encouragement from others at school or work been a problem? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. In the past 12 months, how often has a lack of support and encouragement from others in your community been a problem? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*21. In the past 12 months, how often did you experience prejudice or discrimination? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
22. In the past 12 months, how often has the lack of programs and services in the community been a problem? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
*23. In the past 12 months, how often did the policies and rules of businesses and organizations make problems for you? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
24. In the past 12 months, how often did education and employment programs and policies make it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*25. In the past 12 months, how often did government programs and policies make it difficult to do what you want or need to do? When this problem occurs has it been a big problem or a little problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>

*Indicates questions retained in CHIEF-SF.

Appendix C

Interview Protocol

Interview Questions	<i>Response Notes</i>
<p>INTRODUCTION</p> <p>-- Is there anything else I need to know about your injury?</p> <p>OVERALL INTEGRATION EXPERIENCE</p> <p><i>“Let’s talk about your experience with reintegration since your injury. By reintegration, I mean <u>participation in</u> (a) home activities, (b) social activities, and (c) productive activities (e.g., work, school, volunteering, sport & recreation).”</i></p> <p>1) What was your rehabilitation experience like (if they had rehab)?</p> <p>2) Have you been able to reintegrate back into your home and community like you thought you would be able to?</p> <ul style="list-style-type: none">• What were your expectations?• How have or haven’t your expectations been met? <p>3) Currently, do you consider yourself to be well-integrated in your home and community?</p> <ul style="list-style-type: none">• Can you give some examples of activities you do that make you feel integrated?	Participant Info:
<p>ENVIRONMENTAL FACTORS</p> <p>4) What types of things have supported you in doing these activities?</p> <p><i>Potential follow-up questions:</i></p> <ul style="list-style-type: none">• Have people’s attitudes towards you	

<p>helped you with reintegrating (supportive attitudes of family, friends, other service members, strangers)?</p> <ul style="list-style-type: none"> • Have you received help at work or school that assisted you with reintegrating? • Is there anything about the natural or human-made environment that helps you with reintegrating (temperature; climate; physical geography- land forms, body of water)? • Are there any products and technology that have helped you with reintegrating (things used for daily living, mobility, recreation)? • Have any services or programs helped you with reintegrating (housing, transportation, healthcare, recreation, any other assistance programs)? • Have any policies of business or organizations (including governmental policies) helped you with reintegrating? 	
<p>“Ok, we’ve talked about things that have helped you with reintegrating...now let’s talk about things that may have hindered you or kept you from reintegrating.”</p> <p>5) Is there anything in particular that has hindered you from reintegrating into your home and community? Or anything that made it difficult for you?</p> <p><i>Potential follow-up questions:</i></p> <ul style="list-style-type: none"> • Have people’s attitudes towards you kept you from reintegrating (non-supportive attitudes, stigma, discrimination)? 	

<ul style="list-style-type: none"> • Has a lack of help at work or school kept you from reintegrating back into work or school successfully? • Is there anything about the natural or human-made environment that keeps you reintegrating (temperature; climate; physical geography- land forms, body of water)? ➤ <i>Added question for this section:</i> Is there anything else in your physical environment that keeps you from reintegrating (noise, crowds, temperature, terrain)? • Are there any products and technology that have kept you from reintegrating (things used for daily living, mobility, recreation)? • Have there been any types of services or lack of services that have kept you from reintegrating (housing, transportation, healthcare, recreation, any other assistance programs)? • Have any policies of businesses or organizations (including governmental policies) kept you from reintegrating? 	
<p>PERSONAL FACTORS (esp. self-efficacy)</p> <p>**Introduce discussion of personal factors and expand on participant’s previous comments relating to self-efficacy, motivation, etc.</p> <p>“We’ve talked a lot about external things...now</p>	

<p>let's talk about some internal things.”</p> <p>6) In what ways are you motivated to reintegrate into your home and community?</p> <p>7) Is there anything about you, personally, that has HELPED you with reintegrating? <i>“This may include something as <u>simple as your age/gender</u> or as <u>complex as your personal beliefs about yourself</u> such as your ability to overcome challenges.”</i></p> <p>8) Is there anything about you, personally, that has MADE IT DIFFICULT for you to reintegrate?</p> <p>9) Do you believe you have the skills and abilities to be successfully integrated into your home and community?</p> <p>10) Have you set any goals for yourself?</p> <ul style="list-style-type: none"> • If so, have you been able to achieve those goals? • If not, do you expect to reach those goals? 	
<p>WRAP-UP</p> <p>11) Is there anything that we haven't talked about that you would like to discuss?</p> <p>12) Do you have any suggestions for ways rehabilitation programs and other programs can better prepare injured service members with reintegrating?</p> <p><i>*”THANK YOU for talking with me and sharing your experiences.”</i></p>	

**Give your contact info.	
----------------------------------	--

Appendix D

Summary of Organizations/Individuals Contacted for Participant Recruitment

Organization	Willing to Assist?	# of Service Members Contacted	Recruitment Method by Organization
Higher Ground	Yes	~300	E-mail
Southeastern Paralyzed Veterans of America (PVA)	No “unwilling to share roster”		
Wisconsin Paralyzed Veterans of America (PVA)	Yes	?	Newsletter & website
Wisconsin VA, SCI unit (Joyce, CTRS)	Yes	?	Verbal recruitment only
Wounded Warriors-Hawaii (Rachel, CTRS)	Yes	?	Verbal and flyer
Wounded Warrior Battalion East (Liz Orr, CTRS)	Yes, but lost contact		
Augusta VA Medical Center (Becky Halioua, CTRS) (Warrior Transition Battalion and outpts.)	Yes	?	Verbal and flyer
Clemson Student Vet. Assoc. (Shawn Currie)	Yes, but lost contact		
Jessie Bennett (IU PhD student)(Sent to previous research participants)	Yes	?	E-mail
Wounded Warrior Family Ski Week (Breckenridge, CO)	Yes	20 families	Flyer in welcome packet
Wounded Warrior Project-(Southeast Region)	Yes, but lost contact	?	?
US Paralympic Clubs (294 contacted)	See various responses below		

Home Sweet Home HUD program for Veterans	No, HUD restrictions		“Will pass along”
Disabled Sports USA-national office	No “length and type of survey is not compatible with our mission and interests”		
Disabled Sports USA-Far West	Yes	~350	Email
Disabled Sports USA-Ability Challenge in CA (Adaptive Ski Weekend)	Yes	~40	Flyers included in welcome packet
San Diego Adapted Sports	No response		
Arizona Disabled Sports	No response		
Colusana (org. for injured Hispanic vets)	Yes	?	?
Paralympic Sport Club Metrolina	Yes	?	Email, Facebook page, shared with other programs
Texas A&M Cadet Program	Yes	?	?
Extreme Ice Center-NC	Yes	?	? (offered to let me come interview vets)
City of Chattanooga Parks and Rec.	Yes	?	Newsletter
San Diego Adaptive Sports Foundation	Yes	?	Sent to other programs
Great Lakes Adaptive Sports Association	Yes	?	Sent to other contacts who might be able to help
Colorado Sports Foundation	Yes	“A few of our guys”	Email
Wounded Warrior Battalion-Ft. Bragg	Yes	30	Email
Champions Made From Adversity	Yes	? Sent to their vets	

		and other contacts	
RT VA program in Columbia, SC	No response		
Camp Twin Lakes-Wounded Warrior Family Retreat	Yes	? Not sure she sent it out after camp	?
Wounded Warrior Battalion-Camp Lejuene	No (can't due to restrictions)		
Canine Angels-Myrtle Beach	No response		
Scott Rigsby Foundation	No response		
Ride to Recovery/Husband of Program Director (Amputee Center Care Coordinator for Walter Reed NMC)	Yes	~600 veteran amputees	Email
SPREnet			
ATRAnet			
Outward Bound for Veterans	Yes, but lost contact	~1,000 (not contacted)	
Patricia Neal Rehab. Center	Forwarded to other contacts		
Vetsports	No response		
Team River Runner (National office; Columbia; Wilimington; Raleigh; Asheville)	No response from all programs		
Veterans Adaptive Surf Camp	No response		
Veterans United Network	No response		
The Veterans Site	No response		
American Legion-NC	Yes	? (Forwarded to all officers to	Email

		disseminate)	
Iraq and Afghanistan Veterans of America	No response		
North Carolina Recreational Therapy Association	?	?	Facebook
ECU Recreational Therapy Alumni	?	?	Facebook
Challenged Athletes Foundation	No response		
~20 other individuals who passed along info/posted on Facebook/etc.	Yes	?	Various

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