SELF-IDENTITY RECONSTRUCTION IN VETERANS AND MILITARY SERVICE MEMBERS AFTER TRAUMATIC BRAIN INJURY

by

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DEDICATION

To my parents, Michael and Penny, who raised me to believe in the power of love. Both faced challenges in their lives with grace and humility. I can only hope to one day be half as brave when faced with life challenges. <3

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ABSTRACT

Self-Identity Reconstruction in Veterans and Military Service Members after Traumatic Brain Injury:

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INTRODUCTION: Over 300,000 military service members (MSMs) have returned from recent military conflicts with traumatic brain injury (TBI) resulting in changed self-identity. Discrepancy between previous and current self-identity can lead to self-defeating behaviors such as addiction and homelessness. Numerous studies of self-identity reconstruction (SIR) have been conducted in the civilian population but little is known about Veteran and MSMs' (VMSMs) experiences and needs.

OBJECTIVES: Explore aspects of SIR that are unique to VMSMs to determine how the process can be enhanced by the rehabilitation experience.

METHODS: A one-year qualitative study using semi-structured interviews of Veterans and MSMs (VMSMs) (n=20) with moderate to severe TBI who were admitted to a polytrauma rehabilitation program in the Veterans Health Administration (VHA).

RESULTS: Self-identity discrepancies were reported by all participants. These discrepancies were largely based on experienced deficits (i.e., speech, cognition) and the more global effect of the accident (i.e., loss of life role, fear of motor vehicles). The rehabilitation

experience, including individualized care and feelings of connection with peers and rehabilitation staff, influenced participants' SIR. Self-identity reconstruction process included a series of phases including acceptance of new realities, exploring possibilities, contemplation, planning and connection to self, family and friends.

CONCLUSION: Findings suggest VMSM SIR is a complex, extended process that may continue for many years. Rehabilitation staff may benefit from education on their role in co-constructing individualized care and connection with VMSM SIR. The VHA rehabilitation experience empowers VMSM to orchestrate their own successful, long-term living with TBI.

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CHAPTER 1: Introduction

INTRODUCTION TO THE STUDY

Nearly 400,000 military service members (MSMs) have returned from Operations Enduring Freedom (OEF) in Afghanistan, and Iraqi Freedom (OIF) and New Dawn (OND) in Iraq with traumatic brain injury (TBI) ("DoD Worldwide Numbers for TBI | DVBIC," 2016). Traumatic brain injury instantly produces functional changes. These changes in both abilities and life roles result in changes in self-identity (Kelly, McDonald, & Kellett, 2013).

Self-identity is the set of values, beliefs, behaviors and personality characteristics that combine to make a person unique. Discrepancy between pre- and post-injury self-identity can lead to impaired social functioning and self-defeating behaviors. Self-identity reconstruction (SIR), which occurs over time (J. Douglas, 2013; Lennon et al., 2014), involves acceptance of new limitations and focusing on new abilities. This acceptance empowers the person to orchestrate their own successful, long-term recovery after TBI. Numerous studies of self-identity reconstruction as a healing process after TBI have been conducted in the civilian population (Carroll & Coetzer, 2011; Gelech & Desjardins, 2011; Lennon et al., 2014; Martin, Levack, & Sinnott, 2015), but little is known how findings from those studies translate to Veterans and military service members' experiences and needs. Veterans and military service members who sustain TBI tend to be different from their civilian peers with TBI. Veterans and military service members (VMSMs) are likely to have more protective factors (i.e., employed with higher education) while experiencing greater traumatic brain injury severity (Nakase-Richardson et al., 2017) (Nakase-Richardson, R., Stevens, L. F., Tang, X., Lamberty, G. J., Sherer, M., Walker, W. C., ... & Dillahunt-Aspillaga, C., 2017) than their civilian counterparts. It

is these differences that support the need to study SIR within the VMSM population. Successful SIR may empower VMSMs to improve their own well-being, which is in line with Department of Veterans Affairs 2018-2024 Strategic Plan (Veterans Affairs, 2018). Further, VA rehabilitation nurses may benefit from specific guidance on their role in facilitating positive self-identity reconstruction for VMSMs. This study focuses on improving our understanding of VMSMs' SIR and identifying rehabilitation experiences that may affect SIR.

Summary

The purpose of this dissertation study is to explore, in VMSMs with TBI, the experience of SIR and how rehabilitation influences SIR. It is a one-year qualitative study using semi-structured interviews of VMSMs with moderate to severe TBI admitted to a rehabilitation program in the Veterans Health Administration (VHA). Based in grounded theory, this study extends a civilian model of SIR (Gracey) to the VMSM population.

Background

Traumatic brain injury occurs through many different mechanisms, including motor vehicle accidents, violence, and blast injuries ("Severe TBI | Concussion | Traumatic Brain Injury | CDC Injury Center," n.d.). The sudden, life-changing event of TBI results in extended hospitalization and a future with sequelae that commonly include, but are not limited to, executive dysfunction and psychological challenges that may impact self-identity (Caplan et al., 2016). Once medically stable and able to participate in several hours of rehabilitation a day, the patient works with a team of rehabilitation staff to identify and reach goals that will lead to maximal independence. Thus, to improve well-being, rehabilitation empowers VMSMs to adapt to a new self-identity and reintegrate into communities of choice (Corrigan, Bogner, Mysiw,

Clinchot, & Fugate, 2001). Consistent with this rehabilitation goal of improved well-being, a priority goal in the 2014-2020 Strategic Plan of the Department of Veterans Affairs ("Department of Veterans Affairs FY 2014-2020 Strategic Plan | data.va.gov," n.d.) is to empower Veterans to improve their well-being ("Department of Veterans Affairs FY 2014-2020 Strategic Plan | data.va.gov," n.d.). Pivotal to well-being is integration of VMSMs with TBI into their community of choice.

Since 2000, over 361,092 MSMs have been diagnosed with TBI ("DoD Worldwide Numbers for TBI | DVBIC," 2016). An increasing percentage of these MSMs will receive their care through the VA for the rest of their lives. From FY 2001 to FY 2014, MSMs who transitioned into VHA has risen from 20% to 42%. Further, as these Veterans age, war wounds such as TBI will complicate the aging process (Bagalman, 2014). TBI treatment alone in FY 2015 cost the VA an estimated $234 million (Bagalman, 2014) with over 200,000 Veterans with TBI enrolled for VHA care ("data.va.gov," n.d.). This care ranges from acute inpatient care to long-term convalescent care. Annual VHA cost of care for the Veterans with TBI has been estimated at over one billion dollars. Thus, the financial burden produced by TBI is extensive.

Traumatic Brain Injury and Self-identity

Injury to the brain generates changes in neural tissue that can impair control or expression of emotion, perception, language, and executive functioning (K. Cicerone, Levin, Malec, Stuss, & Whyte, 2006). The extent of impairment varies according to several factors including what part of the brain is injured and characteristics of the patient before the injury (Alvarez & Emory, 2006). Typically, TBI yields a sense of subjective discontinuity, that is, a feeling of not being 'the same.' This change or loss of self-identity is complex. Although sequelae from TBI vary,

most people experience some degree of loss of physical, psychological, and social functioning that leads persons with TBI to wonder who they are and to question their place in the world as reflected in statements such as" I'm not the same person," and" I feel lost" because of the discrepancy between who they were and who they are after TBI (Caplan et al., 2016; Higgins, 1987).

Self-identity after TBI is conceptualized as being a perception of the self as an "integrated, valued person" (Levack et al., 2014a, p. 4), that is, the person needs to feel complete, respected, and validated. In recovery from TBI, a reconstructed identity may reflect post-traumatic growth (PTG), which is an "experience of positive change that occurs as a result of the struggle with highly challenging life crises" (Tedeschi & Calhoun, 2004). Researchers have examined PTG in many populations, including Veterans in general and Veterans with TBI (McGrath, 2011; Pietrzak et al., 2010; Tedeschi, 2011). Post-traumatic growth appears to foster confidence when facing further difficulties and to provide a path to finding one's life purpose (Calhoun, Cann, & Tedeschi, 2010). Reported rates of PTG among those with TBI range from 18%- 52% depending on time since injury and other variables (Hawley & Joseph, 2008; Silva, Ownsworth, Shields, & Fleming, 2011). Importantly, time since injury and PTG are positively associated, which means the more time that has passed since the TBI occurred, the greater is the PTG (Tedeschi, 2011).

Self-identity Reconstruction and Rehabilitation

Self-identity reconstruction in rehabilitation can integrate cognitive rehabilitation and psychotherapy interventions within a structured and supportive therapeutic program (e.g., Wilson, Gracey, Malley, Bateman & Evans, 2009). Fundamental to these programs is that they

facilitate integration of a new self-identity. These programs use tools such as provider collaboration, patient and family education, psychotherapy, cognitive rehabilitation, group therapy, and multidisciplinary therapies to maximize independence, return to work, and social re-engagement. In one randomized clinical trial, such a program produced significantly greater gains in self-efficacy, life satisfaction, and functioning in the community than did standard neurorehabilitation (K. D. Cicerone et al., 2008). A systematic review concluded that these programs improve psychosocial functioning better than other interventions (K. D. Cicerone et al., 2011); the self-identity reconstruction programs reviewed were of high intensity, extended duration, and low client-to-staff ratio.

Interactions with rehabilitation providers influence the patient's sense of self and self-assessment of functional capacity (Levack et al., 2014a). When these assessments are not consistent with the experiences of the person with TBI, the difference leads to self-discrepancy. Participants reported negative experiences when providers implied the person with TBI was malingering, being fraudulent to obtain compensation, or not fully engaging in rehabilitation (Levack et al., 2014a). These experiences drove participants to question their beliefs about who they were and who they could be in the future. Provider influence on self-identity also applies to supportive, positive experiences.

SYNTHESIS

The literature review provided thus far aims to present and support the rationale for examining SIR in VMSMs. After brain injury, VMSMs experience a change in self-identity. SIR is examined minimally in the VMSM literature. Research indicates that SIR may be an extensive process unique to VMSMs. This process can be affected by rehabilitation experiences. Taken

together, it is proposed that SIR in the VMSM community may impact long term TBI outcomes. Furthermore, as we focus more on holistic practices and wellness, understanding the SIR process may lead to programmatic and policy changes for TBI rehabilitation.

Problem Statement

Gaps exist in current literature explaining how SIR is experienced by VMSMs and how rehabilitation experiences affect SI. Gaps exist in the knowledge of how positive self-identity facilitates rehabilitation progress and improves community reintegration.

Study Purpose

This was a one-year qualitative study of VMSMs with moderate to severe traumatic brain injury in the James A. Haley Polytrauma Rehabilitation Program (PRP). The study used semi-structured interviews from an interpretive approach recognizing that VMSMs with TBI are responsible for their actions. VMSMs and military service members admitted to James A. Haley PRP with a diagnosis of moderate to severe TBI were purposively sampled to participate in this study. The study was guided by the 'Y-model' to understand the process of self-identity reconstruction after TBI in the context of a VMSM population (Fig. 1). The 'Y-model' was not yet tested in a VMSM population prior to this study. The study extended the 'Y-model' to develop a more inclusive theory, examining the experience of self-identity reconstruction in a unique population, VMSMs.

Study Significance

For VMSMs with moderate to severe TBI, self-identity reconstruction is critical to recovery. The rehabilitation experience, in turn, can affect the reconstruction process in VMSMs during rehabilitation. VHA works to provide the most effective TBI treatment for VMSMs.

Rehabilitation programs and specialists, especially rehabilitation nurses, need evidence on how self-identity reconstruction can be incorporated into VMSM rehabilitation experience.

Rehabilitation nurses in the VHA play a crucial role in advancing holistic care, integrating evidence into their practice, and improving quality of life in the unique VMSM population ("ARN Strategic Plan | content," n.d.). These professionals are the point of contact in the day-to-day routine of in-patient and residential rehabilitation. The purpose of this study was not only to provide data that may improve understanding of the process of self-identity reconstruction in VMSMs with TBI but also to determine how rehabilitation nurses, crafting specific rehabilitation experiences, can best facilitate this process. Results from this study may provide data that can be used in the future to test rehabilitation interventions and programs to optimize self-identity reconstruction thus maximizing rehabilitation effectiveness for VMSMs with TBI.

Specific Aims

There were two specific aims for this study. They provided insight into the VMSMs' self-identity reconstruction and rehabilitation experiences that may shape the reconstruction process.

Rationale for Specific Aim 1: The first aim in this descriptive study was to explore SIR in VMSM population. The data obtained from this aim represent the personal experience of SIR for each participant. A semi-structured interview guide was developed to illicit this information from participants. The interview guide was developed with input from key stakeholders (i.e.; topic experts, Veterans and people with TBI). Table 3 provides a crosswalk of relevant aims with interview questions.

Specific Aim 1. Explore VMSMs' experiences of self-identity reconstruction after TBI.

1.1 How do VMSMs describe their current and aspired self?

1.2 How do VMSMs describe their experience of the process of self-identity reconstruction?

1.3 Who is important to VMSMs throughout that process and why?

1.4 What are facilitators to self-identity reconstruction?

1.5 What are barriers to self-identity reconstruction?

Rationale for Specific Aim 2. The data from this aim identified rehabilitation experiences perceived by VMSMs to affect the process of SIR. Data were captured through the administration of the above semi-structured interview guide. Findings inform future health services research studies. Table 1 provides a crosswalk of relevant aims with interview questions.

Specific Aim 2. Identify VMSMs' perceptions of rehabilitation experiences that shape self-identity reconstruction.

In a recent review of the impact of the rehabilitation experience on self-identity following TBI, the authors concluded self-identity reconstruction is "an integral process in rehabilitation" and argued research on the processes of self-identity reconstruction should be prioritized (Caplan et al., 2016, p. 29). This study was the first step in a program of research to test the effects of nursing intervention to promote self-identity reconstruction on well-being, community reintegration, and quality of life.

Research Design

This was a one-year qualitative, grounded theory (GT) study of VMSMs with moderate to severe TBI admitted to an inpatient rehabilitation program. Semi-structured interview methods were used to answer research questions associated with each of the two study specific aims.

Participants

The study used theoretical sampling and saturation principles (Sandelowski, 1995) to provide rich description of concepts essential to VMSMs' self-identity reconstruction experience. Participants from varied backgrounds and experiences were recruited based on emerging data from previous participant interviews. Based on a recent review of SI studies with civilian populations, this researcher planned to recruit up to twenty participants allowing for time to saturation.

Instrumentation

While quantitative instruments are used to determine inclusion into the study, this is not a mixed method study (Creswell & Creswell, 2017). This qualitative study used a screening checklist to document eligibility of participants, a demographic checklist to characterize the sample and an interview guide to drive questions during the interview. Each of these documents is described below.

Screening Checklist. The screening checklist (Appendix XXX) was developed as a tool to ensure participants meet eligibility criteria as described above. The checklist were completed by the PI, including the verbal administration of Head Injury Semantic Differential scale (HISD) to determine ability to self-reflect. The HISD Scale is a validated self-report measure which looks at the raw scores for each identity scored as well as score differences between pre-injury, present and future self-identity among people with brain injury (Tyerman, 1999). Twenty matched construct pairs (e.g. aggressive□unaggressive) are ranked on a 7-point scale for a total possible score of 140. Higher scores reflect a more positive view of self. Reported Chronbach's alphas for past and present self were .93 and .92 respectively (Carroll & Coetzer, 2011). Studies have reported point differences between present and future self for persons with TBI (Wright & Telford, 1996). Implicit in the ability to rank one's self pre-injury, present and future, is the ability to self-reflect. Thus, this screening instrument was used to demonstrate ability to self-reflect. A difference in scores for present and future self was used to operationalize ability to self-reflect as an inclusion criterion. This is the only reference difference found in the literature. These scores were not in any way be part data analysis.

Demographic Checklist. Sample characterization is helpful to fully understand the context within which this work is situated. The Demographic Checklist supplied information for

such characterization. The Demographic Checklist (Appendix XXX) was used to record age, gender, ethnicity, marital status, educational background, employment at time of accident, rehabilitation intensity, time since accident and descriptors of the VMSM's polytrauma-related injuries. These demographic items have been noted in the literature as associated with outcomes after TBI (Cifu, Kreutzer, Kolakowsky-Hayner, Marwitz, & Englander, 2003; Malec, Smigielski, Depompolo, & Thompson, 1993; Novack, Bush, Meythaler, & Canupp, 2001; J. Ponsford, Kelly, & Couchman, 2014; Prigatano, 2005).

Interview Guide. A semi-structured interview guide (Appendix C) was used with participating VMSMs. Questions included in the Interview Guide were developed based on published literature and input from Veterans with TBI (Fergus Gracey, Evans, & Malley, 2009; Levack et al., 2014a; Lloyd, Gatherer, & Kalsy, 2006; Paterson & Scott-Findlay, 2002). The questions center on the two specific aims for this study: explore VMSMs' experience of self-identity reconstruction after TBI and identify rehabilitation experiences perceived by VMSMs to affect self-identity and promote active rehabilitation engagement.

Previous researchers found eliciting data on self-identity reconstruction was straightforward across all TBI severities, despite the abstractness of the concept (Levack et al., 2014a). Care was taken to develop effective interview guide content and form for this vulnerable and unique population.

The content and form of the interview guide were reviewed and amended by experts in the fields of TBI and interviewing methodology; as well as by Veterans prior to formal drafting of this proposal. Experts in the field of TBI (content experts) were identified through their work describing self after TBI (Caplan et al., 2016; Lorenz, n.d.). These content experts have several manuscripts published in peer-reviewed journals, describing self after TBI. The PI approached

each expert via email, described the study and submitted the interview guide for input. Each content expert replied with comments to the interview guide which, if appropriate, were incorporated into the document.

Form experts, those whose careers revolve around interviewing methods, were identified through professional connections. These form experts have years of experience developing interview guides and interviewing VMSMs with TBI. They have several publications in peer reviewed journals, as well as leadership positions in professional and qualitative research organizations. Each form expert was contacted in person. The interview guide was submitted via email for input. Each form expert replied with comments to the interview guide, which if appropriate, were included in the document.

Two Veterans were approached in person to provide input as to appropriateness of terminology and content of questions. One Veteran is a VA employee; the other has documented TBI. Each read the interview guide and provided verbal feedback which was included in the final document. The final document includes a total of seven questions covering the experience of self-identity reconstruction and rehabilitation influences on this process. Table 3 links each interview question to the corresponding Specific Aim and research question. Constructs from the 'Y-model' are also linked to each Specific Aim and research question.

Procedure

Theoretical Framework

Several models of the process of self-identity reconstruction after crisis have been proposed. Early linear models did not capture the complexity and fluid day-to-day evolution of self after injury (Bury, 1982). Later works describe movement and fluidity as part of an ongoing process. Yoshida (Yoshida, 1993) proposed a pendulum model. In this model, a patient swings

through five categories of self until self-identity finally stabilizes in the middle. This middle self incorporates qualities from both the former self and the disabled self. This model does not account for outside influences such as rehabilitation or social context. Another model describes a process of expansion and contraction. Though this dynamic process is theorized to continue throughout life as one seeks balance between positive and negative ideas of self, it also does not account for environmental or social context (Muenchberger, Kendall, & Neal, 2008).

The most recent model, the Y-model, builds on the idea of self-reconstruction as a life-long, dynamic process (Fergus Gracey et al., 2009; "Neuropsychological Rehabilitation | The International Handbook | Taylor & Francis Group," n.d.) and accounts for the influence of context. The model was developed from results of a study using the personal construct elicitation method to identify constructs followed by thematic analysis. Participants with TBI attended focus groups to develop bipolar constructs of the preinjury, current, and future self-identities. In this model, discrepancies between current self-identity and aspired-to self-identity pose threats to core self-identity and result in emotional distress. Positive self-identity reconstruction, however, requires incorporation of both the pre-injury and post-injury self-identities. The newly incorporated self-identity solidifies through meaningful activities. This framework depicts self-identity reconstruction as a process that is strongly influenced by a social environment. The process is depicted as a 'y' shaped process and, thus, is called the 'Y-model'.

Limitations, and Scope

This study seeks to explore the VMSM experience of self-identity reconstruction, identify rehabilitation experiences perceived by VMSMs to influence this process as well as rehabilitation engagement. The study uses in depth qualitative interviewing to provide rich

description in hopes of connecting concepts described to individual experience. Thus, the findings are not be generalizable to a broad population. Additionally, this study relies on information provided by VMSMs who have experienced a brain injury. Their memory and interpretation of events may not be completely accurate. There are numerous factors that were not accounted for in this study design. Participant IQ, personality traits and preexisting self-identity conflicts cannot be captured in this qualitative study. These pre-morbid factors have been implicated in TBI outcomes but were not be available to researchers at the time of the study. Self-identity reconstruction is a process which occurs over time. This study had limited scope and was not able to follow participants beyond their length of stay (average 2-6 months). These same participants may be involved in future studies which address complex rehabilitation outcomes, possibly to include self-identity reconstruction. Additionally, given time and resource limitations, family response to the TBI and family support was not assessed.

Definition of terms

Self-identity (SI)- the set of values, beliefs, behaviors and personality that combine to make a unique person

Self-identity reconstruction (SIR) – active process of reconciling changed self-identity that involves acceptance of new limitations and a focus on new abilities

Veterans and Military Service Members (VMSMs)-current or former members of the United States Armed Forces or Reserves

Providers-any licensed professional (e.g.; MD, DO, RN, MSW, Recreational therapist) that provides rehabilitation care to VMSMs

Family-loosely defined as anyone with a close relationship with the VMSM (e.g.; significant other, child, parent, sibling, friend)

Rehabilitation experiences-VMSM personal observation of or participation in events and happenings while in Polytrauma Rehabilitation Program

Inpatient rehabilitation program-VHA program of comprehensive, interdisciplinary rehabilitation care provided within hospital grounds either in an acute care type environment or residential environment

Summary

This study sought to inform VA providers and policy makers on the experience of SIR in VMSMs. Findings provide a basis for a program of research that will inform community reintegration strategies for VMSMs with disabilities.

CHAPTER 2: Literature Review

This chapter presents my literature review. This review is about the published works pertinent to this study including traumatic brain injury, self-identity, self-identity reconstruction and the uniqueness of VMSMs with TBI. Most works were published within the last two decades with the exception of some foundational works discussing self-identity. The review is organized by concept- broadest first, in a way that will narrow to the specifics of my work.

TRAUMATIC BRAIN INJURY

In this section literature that defines TBI, its treatment and outcomes will be presented to provide a broad context for this study.

Defense and Veterans Brain Injury Center (DVBIC), a component of Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), defines TBI as an "alteration in brain function, or other evidence of brain pathology, caused by an external force" (Menon, Schwab, Wright, & Maas, 2010, p. 1637) The classification of severity of injury is based on patient status at the time of initial medical treatment. Severity can be mild, moderate, or severe. See Table 1 for details. Severity scales are often used in conjunction with mechanism of injury and other factors (e.g. age, employment status, education, type of injury, race, marital status), to predict outcomes after TBI. Measured outcomes typically include physical, cognitive, and social functioning.

Table 1 TBI Severity Scale

Severity	*Glasgow Coma Scale*	*Altered level of consciousness*	*Loss of consciousness*	*Post-traumatic amnesia*
Mild	13-15	≤ 24 hours	0-30 minutes	≤ 24 hours
Moderate	9-12	> 24 hours	>30 minutes <24 hours	>24 hours < 7 days
Severe	3-8	> 24 hours	≥24 hours	≥7 days

Note: Adapted from VA/DoD Clinical Practice Guideline for Management of Concussion/Mild Traumatic Brain Injury

Mechanism of injury varies across populations. The most common mechanisms in VMSMs are closed head injury (e.g. blast injury), deceleration injuries (e.g. motor vehicle accident), chemical (e.g. overdose), and open head injury (e.g. gunshot wound) (DVBIC, 2016). TBI, of any mechanism, results in lasting sequelae that may impact self-identity and long-term recovery. See Table 2 which provides a sampling to consider.

Table 2 Common TBI Sequelae

Physical Changes	*Cognitive Changes*	*Emotional/Behavioral Changes*
Balance	Concentration	Agitation
Endurance	Concrete thinking	Depression
Motor skills	Dysphasia	Disinhibition
Pain (e.g. headache)	Executive functioning	Flat affect
Seizure	Information processing	Impulsivity
Sensory	Initiation	Isolation
Sleep disturbance	Memory	Mood swings
Spasticity		Poor judgment
Speech and swallowing		

Note: Adapted from DVBIC

VMSMs with TBI are clinically complex with commonly co-occurring conditions of pain and mental health disorders (Taylor et al., 2012). Medical costs for Veterans with TBI increase as clinical complexity increases (Taylor et al., 2012). Many VMSMs of recent conflicts have been diagnosed with TBI, post-traumatic stress disorder (PTSD), and pain. In 2009, this population incurred median annual medical costs eight times higher than the median annual costs per patient in their peer group without TBI or associated concurrent conditions (Taylor et al., 2012).

Additional co-morbidities include sleep disturbances (Holcomb et al., 2016), mood disturbances (Jorge & Arciniegas, 2014), and chronic pain (Nampiaparampil, 2008). Long-term risks for Alzheimer's disease, Parkinson's disease, mild cognitive impairment, depression, mixed affective disorders, and bipolar disorder are also increased for Veterans with a history of TBI (Perry et al., 2016). Each of these co-morbidities is associated with changed roles and abilities thus impacting one's self-identity. These findings and others have provided the foundation for recognizing TBI as a life-long, chronic disease (Corrigan & Hammond, 2013).

Neuropsychological rehabilitation is one key aspect of recovery after brain injury due to its focus on understanding the relationship between the injured brain and behaviors (McAllister, 2011). Neuropsychologists walk persons with TBI through the process of self-identity rediscovery (Milders, Fuchs, & Crawford, 2003). It is this rediscovery, this meaning-finding, that facilitates self-identity reconstruction (Lorenz, 2010; Ylvisaker, Mcpherson, Kayes, & Pellett, 2008).

SELF-IDENTITY

In this section literature that defines self-identity, why it is important, how it changes after TBI, and the impact of self-identity discrepancy after TBI is presented to give perspective on the need for resolution of self-identity discrepancy.

Injury to the brain generates changes in neural tissues. Disturbances of such tissue can lead to changes in the control or expression of emotion, perception, language, and executive functioning (K. Cicerone et al., 2006). The extent of change varies according to several factors including individual injury locations (e.g. frontotemporal lesions) and pre-morbid characteristics (Alvarez & Emory, 2006). Typically, these changes yield subjective discontinuity (feeling of not being 'the same') as part of post-TBI identity changes.

This change or loss of self-identity is complex and experienced at an individual level. Although sequelae from TBI vary, most people experience loss of physical, psychological and social functioning to some degree. Such complex loss leads persons with TBI to wonder who they are and question their place in the world (e.g. 'I'm not the same person,' 'I feel lost'). This loss is considered a discrepancy between who they were and who they are after TBI (Higgins, 1987).

Self-identity after TBI is conceptualized as being an "integrated, valued person" (Levack et al., 2014b). This definition of self-identity is grounded in the perceptions of persons with TBI. These perceptions suggest that in order to reconstruct a self-identity which is cohesive and salient, the person needs to feel complete, respected and validated, and valued.

Reconstructed identities after TBI are often positive, reflecting post-traumatic growth (PTG). Post-traumatic growth is defined as "experience of positive change that occurs as a result of the struggle with highly challenging life crises" (Tedeschi & Calhoun, 2004). This positive

change is directly dependent on a person's self-identity (Tedeschi & Calhoun, 2004) making efforts for self-identity reconstruction integral to the PTG process. Researchers have focused PTG efforts on many populations, including Veterans and Veterans with TBI (McGrath, 2011; Pietrzak et al., 2010; Tedeschi, 2011). Post-traumatic growth appears to foster confidence when facing further difficulties as well as provides a path to finding one's life purpose (Calhoun et al., 2010). Reported rates of PTG among those with TBI range from 18%- 52% depending on time since injury and other variables (Hawley & Joseph, 2008; Silva et al., 2011). Important to note is time since injury and PTG are positively associated meaning the more time passed since injury, the more PTG reported (Tedeschi, 2011).

SELF-IDENTITY RECONSTRUCTION

This third section of literature hones in on self-identity reconstruction. Literature is presented that defines the process, explains why it is important, how the process occurs and known outcomes. Gaps in the literature will also be presented to include specific populations.

Self-identity reconstruction is the focus of rehabilitation programs that integrate cognitive rehabilitation and psychotherapy interventions within a structured and supportive therapeutic milieu (e.g. Wilson, Gracey, Malley, Bateman & Evans, 2009). Fundamental to these programs is facilitation of an integrated self-identity. These programs use tools including provider collaboration, patient and family education, psychotherapy, cognitive rehabilitation, group therapy and intradisciplinary therapies to maximize functional independence, return to work, and social re-engagement (i.e., integrated self-identity). One randomized clinical trial reports such programs produced significantly greater gains in community functioning, self-efficacy, and life satisfaction than standard neurorehabilitation (K. D. Cicerone et al., 2008). A systematic review

of the literature concluded programs focusing on SIR result in improved psychosocial functioning relative to other interventions (K. D. Cicerone et al., 2011). Programs reviewed were of high intensity, extended duration and low client-to-staff ratio.

Rehabilitation providers' interactions with their clients influence the person's sense of self after TBI (Levack et al., 2014a). *Self-discrepancy* is the difference in sense of self created when the client perceives personal and provider assessments do not match their experience of self-identity prior to their TBI (Higgins, 1987). Provider focus on client functional limitations fosters heightened self-discrepancy. Self-discrepancy has been linked to poor rehabilitation outcomes such as mood disorders and limited community reintegration (E. J. Beadle, Ownsworth, Fleming, & Shum, 2017; Elizabeth Jane Beadle, Ownsworth, Fleming, & Shum, 2018). Persons with TBI also report providers allude to intentional poor rehabilitation engagement, deceitfulness to garner compensation, and malingering (Levack et al., 2014a). These experiences drove clients to question their own beliefs about who they were and who they could be in the future thus altering their new self-identity. Provider influence on self-identity also applies to supportive (positive) experiences.

Gracey, Evans and Malley built on this idea of life-long, dynamic process, acknowledging the influence of context in their model (Fergus Gracey et al., 2009). The model was developed from results of their 2008 study using personal construct elicitation method to identify constructs followed by thematic analysis. Participants with TBI attended focus groups to develop bipolar constructs describing preinjury, current and future self-identities. In this model, discrepancies between current self-identity and aspired-to self-identity pose threats to core self-identity and result in emotional distress. Positive self-identity reconstruction requires incorporation of both the pre-injury and post-injury self-identities. The newly incorporated self-

identity is then solidified through meaningful activities. This framework depicts self-identity reconstruction as a process that is strongly influenced by a person's social environment. The process is depicted as a 'y' shaped process, thus is called the 'Y-model'.

VETERANS AND MILITARY SERVICE MEMBERS AFTER TBI

This final section of literature highlights VMSM experiences of TBI. Over the last decade, more than 265,000 military service members and consequent Veterans have been diagnosed with traumatic brain injury ("DoD Worldwide Numbers for TBI," 2016). Residual effects of TBI are extensive and are associated with altered physical, cognitive and social functioning. These changes result in subsequent loss including, but not limited to, unemployment, financial instability and self-identity (Ownsworth & McKenna, 2004; J. Ponsford et al., 2014). Such losses may lead to physical, psychological and social impairments (J. L. Ponsford & Spitz, 2015; Ylvisaker & Feeney, 1996). Thus, TBI is a potent threat to physical, psychological and social well-being (Hoofien, Gilboa, Vakil, & Donovick, 2001; Millis et al., 2001).

GAPS IN THE LITERATURE

Based on the literature review several gaps are apparent for the study of self-identity reconstruction in VMSMs with TBI. These include VMSM s' experiences of the self-identity reconstruction process and impact of rehabilitation strategies on VMSM self-identity reconstruction.

Although, self-identity reconstruction has been studied in varied chronic disease populations, civilian populations, and Veteran populations, little work has been published studying self-identity reconstruction among VMSMs with TBI (F. Gracey & Ownsworth, 2012; MacQueen, Fisher, & Williams, 2018). VMSM populations are unique by life experience and culture. Immersion in military culture impacts identity and may result in a crystallization of identity that impacts reconstruction by prioritizing social membership and personal resilience (Cooper & Brubaker, 2000). The research addresses this gap by exploring VMSMs' experiences of self-identity reconstruction after TBI and identifying rehabilitation experiences perceived by VMSMs to affect self-identity.

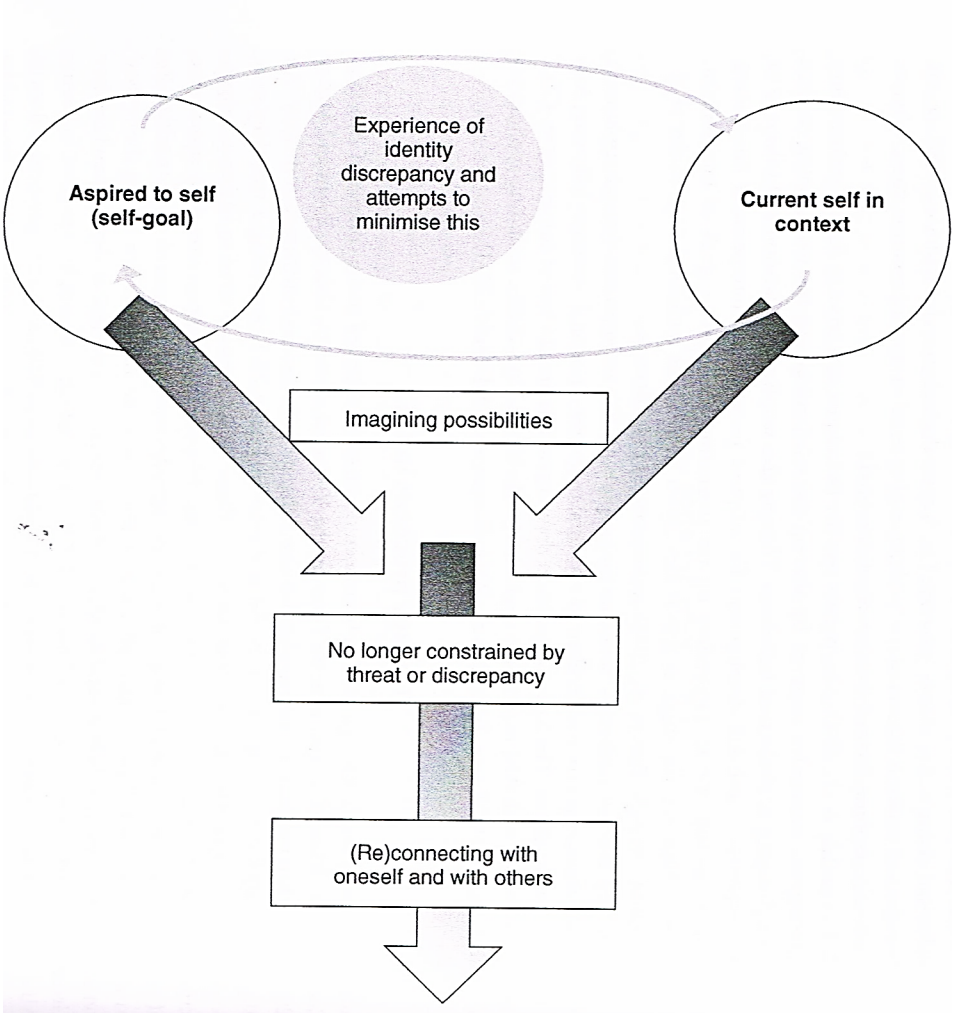
Conceptual Framework

A number of established theories have already been proposed to account for the sense of loss or change in self-identity following disabling health conditions. These include Self-Discrepancy Theory (Higgins, 1987), Social Identity Theory (Tajfel & Turner, 1979), and Possible Selves Theory (Markus & Nurius, 1986). However, these theories are not specific to TBI nor do they take into account military identity.

For the purposes of this research, self-identity is defined as being an integrated, valued person and the process of self-identity reconstruction is based on the environmentally influenced 'Y-model'. This 'Y-model' has been used in varied populations (e.g. Turner, Fleming,

Ownsworth & Cornwell, 2011). At this time, the model has not been used in a VMSM or MSM population. The study used GT to extend the 'Y-model' to a different population—VMSMs.

Figure 1 Y-Model of Self-identity Reconstruction



*Adapted from Gracey, 2017

CHAPTER 3: Methods

INTRODUCTION

This one-year qualitative study of VMSMs s with moderate to severe traumatic brain injury in the James A. Haley Polytrauma Rehabilitation Program used semi-structured interviews from an interpretive approach recognizing that VMSMs with TBI are responsible for their actions. The study was guided by the 'Y-model' to understand the process of self-identity reconstruction after TBI in the context of a VMSM population (Fig. 1). The 'Y-model' has not yet been applied to a VMSM population. The study extends the 'Y-model' to develop a more inclusive theory, examining the experience of self-identity reconstruction in another population, VMSMs.

METHODOLOGICAL RATIONALE

This work is studied under an interpretivist paradigm. The ontological position assumed by this researcher is relativism. Reality varies from person to person and is modified by their subjective experience (Guba & Lincoln, 1994). The epistemological position assumed by this researcher is one of constructivist epistemology. This position asserts meaning is constructed though the interaction between consciousness and the world (Hudson & Ozanne, 1988). This position thus acknowledges the importance of human interactions. Research from this paradigm dictates the persons who are responsible for their actions, should be a critical aspect of research (Guba & Lincoln, 1994).

From this perspective, emphasis is placed on the critical importance of the VMSM's own interpretations of the self-identity reconstruction after TBI and the impact of rehabilitation experiences. It is acknowledged that different individual perspectives reflect individual

experiences. In fact, the world itself is multidimensional and multifaceted. Therefore, self-identity reconstruction is not a concrete, unmalleable entity, but is dependent on the context in which it is expressed. For this reason, the context of the individual's experience is given consideration throughout the research process.

Research methods are determined by research questions. The questions for this study are exploratory and situated within individual experience. Experimental and quasi-experimental methods are rejected for this study for similar reasons. First, these methods approach a problem from a positivist epistemology (Scotland, 2012). Second, each entail comparing similar groups (random and non-random assignment) who receive an intervention (case vs. control) looking for association. Third, these methods are best suited to answer 'difference' type questions (Did VMSMs who received usual vocational rehabilitation services score differently on the Community Reintegration for Service Members (CRIS) than did VMSMs who received usual vocational rehabilitation services in addition to Supported Employment?). This study's questions are not 'difference' questions.

Correlation studies look to find associations between variables. Strength of relationship is the goal. These studies are best suited for 'relationship' type questions (What is the relationship between TBI severity and amount of change in self-identity?). The study questions do not look for associations or relationships between variables so correlation studies are rejected.

Descriptive quantitative studies were also briefly considered. This type of study answers 'counting' type questions (How many VMSMs report a change in self-identity?). Quantitative studies may be useful as a 'next step' in a program of research, but at this point, no validated tools exist to measure the process of self-identity change after TBI.

Qualitative research methods are particularly appropriate for research aimed at investigating phenomena about which little is known, especially when the phenomena involve personal experiences and processes (Al-Busaidi, 2008; Patton, 1990). The research questions ask how a person experiences self-identity reconstruction. A lack of publications describing self-identity reconstruction in VMSMs with TBI as well as limited publications describing rehabilitation experiences impact on self-identity reconstruction suggest a qualitative approach to data collection and analyses was suitable for the study.

Grounded Theory (GT) is a qualitative research method used to systematically build or extend theory through an iterative process (Glaser & Strauss, 2017). Historically GT has been used in a wide variety of subject areas including rehabilitation, education and nutrition (Alakaam, Castellanos, Bodzio, & Harrison, 2015; Loonam, 2014). Data collection and analysis are interrelated with analysis beginning with the first data collection. As analysis progresses it shapes future data collection. Some of the benefits of a GT approach are its ability to capture complexity beyond a priori variables and its appropriateness for studying emerging topics. GT is especially suited to 'how' questions such as this proposal.

GT has been successfully used in other studies focusing on self-identity (Alakaam et al., 2015; Fergus Gracey et al., 2009; Levack et al., 2014a; Ylvisaker et al., 2008). Gracey established the 'Y-model' of self-identity reconstruction through their work. This model has been shown to be relevant in several populations. Levack established a person-centered definition of self-identity reconstruction with his work. This finding was supported by later studies (Reddy, Ownsworth, King, & Shields, 2017; Thomas, Levack, & Taylor, 2014; Timothy, Graham, & Levack, 2016).

GT has been successfully used in the study of self-identity reconstruction as noted above. This method is an appropriate approach for the research questions as these are similar to previous studies, yet applied in a different population (VMSMs) (Ashworth, Gracey, & Gilbert, 2011; J. J. Evans, 2011; Nalder, Fleming, Cornwell, Shields, & Foster, 2013; Ylvisaker et al., 2008). The study used a GT qualitative approach from an interpretive epistemological paradigm to extend Gracey's 'Y-model' beyond previous populations to VMSMs.

RESEARCH DESIGN AND AIMS

This is a one-year qualitative, grounded theory study of VMSMs with moderate to severe TBI admitted to an inpatient rehabilitation program. Semi-structured interview methods were used to answer research questions associated with each of the two study Specific Aims:

Specific Aim 1— Explore VMSMs' experience of self-identity reconstruction after TBI,

Specific Aim 2— Identify rehabilitation experiences perceived by VMSMs to affect self-identity.

SETTING

VA Polytrauma System of Care

The VA Polytrauma System of Care (PSC) provides access to expert care for VMSMs with polytrauma ensuring transition to their home communities at the highest level of independence. Polytrauma is defined as "two or more injuries to physical regions or organ systems, one of which may be life threatening, resulting in physical, cognitive, psychological, or psychosocial impairments and functional disability" ("Definitions - Polytrauma/TBI System of Care," n.d.). TBI is common co- morbidity in polytrauma.

The PSC provides direct care and formally connects individuals with disabilities to community resources. Providers work with VMSMs and their families to coordinate the

VMSM's rehabilitation, medical, and psychosocial care. Today, five VA hospitals specialize in rehabilitation of VMSMs with Polytrauma. The James A. Haley VA Hospital in Tampa, Florida serves as the PSC for the southeast.

James A. Haley VA Hospital

Activated in 1972, the James A. Haley VA Hospital is a 415 bed, tertiary care facility (James A. Haley Veterans' Hospital-Tampa, n.d.)). The James A. Haley VA Hospital is a teaching hospital affiliated with University of South Florida as well as local schools of nursing. The Physical Medicine and Rehabilitation Service (PMRS) is just one of the varied services available at James A. Haley VA Hospital, providing both inpatient and outpatient services for persons with disabilities to improve well-being and attain maximal independence. The Polytrauma Rehabilitation Program is a key PMRS program facilitating VMSM successful return to community.

Polytrauma Rehabilitation

VA Polytrauma Rehabilitation Programs (PRPs) are holistic programs designed specifically for VMSMs to improve their functioning in many domains (e.g. physical, cognitive, behavioral, and social) after significant illness or injury, typically TBI (Issue, n.d.). The interdisciplinary team and VMSMs with TBI develop a treatment plan to reach individualized goals. Neuropsychologists, rehabilitation nurses and other team members help VMSMs identify changes in self-identity and rediscover meaning. The team environment, extended length of stay, focus on self-identity and time since injury all make

This an optimal program to recruit participants for the study. The program includes two modules: Inpatient and Transitional Rehabilitation.

Polytrauma Inpatient Rehabilitation (PIR) is a hospital-based rehabilitation unit. This is typically the first unit VMSMs are treated in once transferred from a Department of Defense or civilian acute care hospital. VMSMs with TBI on this unit range in abilities, from emerging consciousness requiring total care to fully independent in activities of daily living. Length of stay averages two months with many transitioning to the apartment-style Polytrauma Transitional Rehabilitation for ongoing rehabilitation.

Polytrauma Transitional Rehabilitation program is unique to the VA. Most residents are several months out from their initial injury. They live in apartment style suites and are encouraged to be independent in all domains of life. Many rehabilitation experiences include focus on self-identity reconstruction. Average length of stay for this module is six months.

PARTICIPANTS

Eligibility

Eligible participants were those VMSMs currently or historically admitted to Tampa VA PRP program, above the age of 18 with a documented TBI and ability to self-reflect. Self-reflection is the capacity to reflect on one's own self (Johnson et al., 2002) or simply the ability to be aware of one's self and think about differences over time. The ability to self-reflect may be absent after brain injury. This was a study requiring self-reflection. The Head Injury Semantic Differential Scale (HISD), which measures subjective changes to sense of self in individuals with brain injury, was used as a *screening tool* to ascertain participant's ability to self-reflect. Additional details of this instrument are included in the "Instruments" section below. Documented diagnosis of any type of psychosis excluded participation in this study due to potential interference of hallucinations with interview data validity. All efforts were made to include every eligible resident of PRP during this study.

Sampling

The study uses theoretical sampling and saturation principles (Sandelowski, 1995) to provide rich description of concepts essential to VMSMs' self-identity reconstruction experience. Participants from varied backgrounds and experiences were recruited based on emerging data from previous participant interviews. Though saturation may be achievable for an expert researcher with as few as one case, novice researchers typically require more cases to see redundancy (Sandelowski, 1995).

A recent review of qualitative works on the recovery after TBI included study samples ranging from one to twenty-one, with an average sample of 6.7. Among only grounded theory works, the average sample was ten participants (Levack, Kayes, & Fadyl, 2010). This researcher recruited twenty participants allowing for time to saturation.

DATA COLLECTION

Instruments

While quantitative instruments are used to determine inclusion into the study, this is not a mixed method study. This qualitative study used a screening checklist to document eligibility of participants, a demographic checklist to characterize the sample and an interview guide to drive questions during the interview. Each of these documents is described below.

Screening Checklist

The screening checklist (Appendix A) was developed as a tool to ensure participants met eligibility criteria as described above. The checklist was completed by the PI, including the verbal administration of the HISD to determine ability to self-reflect. The HISD Scale is a validated self-report measure which looks at the raw scores for each identity scored as well as score differences between pre-injury, present and future self-identity among people with brain injury (Tyerman, 1999). Twenty matched construct pairs (e.g. aggressive□unaggressive) are ranked on a 7-point scale for a total possible score of 140. Higher scores reflect a more positive view of self. Reported Cronbach's alphas for past and present self were .93 and .92 respectively (Carroll & Coetzer, 2011). Studies have reported 12 and 8 point differences between present and future self for persons with and without TBI respectively (Wright & Telford, 1996). Implicit in the ability to rank one's self pre-injury, present and future, is the ability to self-reflect. Thus, this screening instrument was used to demonstrate ability to self-reflect. A difference in scores of between 8 and 12 points for present and future self was used to operationalize ability to self-reflect as an inclusion criterion. This is the only reference difference found in the literature. These scores were not in any way part data analysis.

Demographic Checklist

Sample characterization is helpful to fully understand the context within which this work is situated. The Demographic Checklist supplied information for such characterization. The Demographic Checklist (Appendix B) recorded age, gender, ethnicity, marital status, educational background, employment at time of accident, rehabilitation intensity, time since accident and descriptors of the VMSMs' polytrauma-related injuries. These demographic items have been noted in the literature as associated with outcomes after TBI (Cifu et al., 2003; Malec et al., 1993; Novack et al., 2001; J. Ponsford, Draper, & Schönberger, 2008; Prigatano, 2005).

Interview Guide

A semi-structured interview guide (Appendix C) was used with participating VMSMs. Questions included in the Interview Guide were developed based on published literature (Fergus Gracey et al., 2009; Levack et al., 2014a; Lloyd et al., 2006; Paterson & Scott-Findlay, 2002) and input from Veterans with TBI . The questions centered on both specific aims for this study: explore VMSMs' experience of self-identity reconstruction after TBI and identify rehabilitation experiences perceived by VMSMs to affect self-identity.

Table 3 Interview Questions

Construct	*Specific Aim/ Research Question*	*Intent*	*Interview Item*
	N/A	Context	1. Before we start, could you please remind me: a. When was your accident? b. What happened?
Aspired to Self	SA1, 1.1		2. How would you describe yourself prior to your TBI?
		Prompt	a. How did you spend your free time?
		Prompt	b. What was important to you?
Self in Current Context	SA1, 1.1	Prompt	3. How would you describe your current self?
		Prompt	a. How do you currently spend your free time? b. What is important to you now?
Experience of Discrepancy			4. How did you change from your previous description to who you are now?
Experience of Discrepancy	SA1, 1.2		a. What was that progression like for you?
Resolving Discrepancies	SA1, 1.3		b. Who was important to you through that process? Why?
Resolving Discrepancies	SA1, 1.4		c. What helped you get through?
Resolving Discrepancies	SA1, 1.5		d. What made your progress more difficult?
			5. Describe any rehabilitation experiences that you participated in.
Resolving Discrepancies	SA2, 2.1		a. How did these rehabilitation experiences impacted your sense of who you are now?
		Closure	6. Is there anything else you would like to talk about?

Data Collection Procedures

Recruitment

The PI was responsible for coordinating the recruitment of VMSMs with moderate and severe TBI at the Tampa PRP program. The PI worked with clinicians at the Tampa PRP

program to identify potential study participants. Clinicians approached potential study participants, provided an overview of the study, asked if he/she would like more information, and finally referred the VMSM to the PI, if indicated. Additionally, brochures were placed in common areas in the rehabilitation units so that VMSMs and families may self-refer by telephone. The PI sent individualized emails to key providers (physiatrists, program directors, nurse managers, speech therapists, recreational therapists, vocational rehabilitation specialists, and psychologists) to introduce them to this study and set the stage for enhanced recruitment. The PI also took time to meet with providers individually to discuss the study goals, methods and recruitment needs.

After three months of recruitment, including visiting units, repeated emails and phone calls to providers, and in-person requests for referrals, only six participants were consented. Quite shy of the up to twenty planned. These interviews revealed extended time post-injury provided for increased reflection on the reconstruction of self-identity. After discussing with the dissertation committee, an amendment was submitted to change inclusion criteria to include VMSMs who had either a current OR historical admission to Tampa polytrauma center for mod to severe TBI. It was hoped this expansion of criteria would provide rich data on the extensive process of self-identity reconstruction as well as increase the number of participants. With the expanded criteria, study recruitment was completed with 20 participants.

The PI approached eligible VMSMs following sampling and recruitment strategies maintaining awareness of special needs for this population. When a VMSM expressed interest, the study PI scheduled time for informed consent and interview at the VMSM's convenience. Lasting fatigue is well documented among survivors of TBI (Belmont, Agar, & Azouvi, 2009; Cantor et al., 2008; Mollayeva, Kendzerska, Mollayeva, Shapiro, & Colantonio, 2006). Consent

and interview appointment scheduling took into account VMSM patterns of fatigue. A copy of the flyer and informed consent form was provided for VMSM review prior to their appointment.

An additional meeting was scheduled to review documents in detail, provide clarification and complete Demographic Checklist. All study participants were provided a written informed consent and a one-page bulleted summary of consent to facilitate understanding. This one-page bulleted summary was reviewed by participants and family as needed.

Informed consent was verbally explained and an opportunity provided to respond to questions of potential participants. Demographic Checklist was completed to record both demographic and descriptive data. Demographic Checklist was completed only once for each participant. No follow-up interviews were required during the course of this study.

Steps were taken to prepare participants with TBI for qualitative interviews which contain abstract questions. VMSMs were encouraged to think about their experience of self-identity reconstruction prior to scheduled interview. Additional time was offered to participants to generate and organize thoughts, eliciting a reflective response. This strategy is taught to survivors of TBI to improve articulation of abstract concepts such as perceived growth or other cognitive processes (J. M. Douglas, 2013). One participant requested a family member (spouse) attend his interview which was promptly and easily accommodated.

Interviews

Twenty VMSMs (Veterans=7, Military Service Members=13) participated in an individual interview. Interviews lasted between 40 and 80 minutes with most lasting one hour. Two participants tired during their interviews. This was both verbalized by participant and noticeable based on their behaviors (yawning), decreased ability to stay focused on the conversation. The PI offered to schedule a subsequent interview to complete data collection but both participants refused, stating they wanted to provide their stories in one complete interview. Use of interview guides facilitated the interviewer's ability to explore self-identity reconstruction and promote systematic and comprehensive interviewing across participants (Patton, 1990).

Interviewing persons with TBI can be challenging, especially when focusing on abstract concepts such as self-reflection and self-identity. These challenges are well documented in the literature as well as techniques to best elicit rich data responses (Lloyd et al., 2006; Paterson & Scott-Findlay, 2002).

Interview Challenges

Challenges in interviewing persons with TBI may be extensive. Recall may be limited to most recent days during the initial months after injury. Receptive and expressive dysphasia may also be present (K. Evans & Hux, 2011). Often persons with TBI can become over stimulated by environmental factors (Schretlen & Shapiro, 2003). Interview questions can prompt uncomfortable memories. People with TBI often try to present themselves as 'healed', avoiding any discussion that focuses on residual deficits (Lloyd et al., 2006). These challenges do not prohibit researchers from interviewing participants with TBI.

Interview Strategies

Common qualitative interview techniques are not best suited for this unique population. To address inherent challenges to interviewing this population, several strategies have been supported in the literature. The PI incorporated these strategies into the study design and plan.

The PI created a plan in advance for overcoming interviewing challenges (Lloyd et al., 2006). Interviewing procedures were developed in response to anticipated challenges through collaboration with TBI expert clinicians (Paterson & Scott-Findlay, 2002). Time spent in advance of the interview developed rapport as well as provide information to interviewee as to what to expect during the interview (Paterson & Scott-Findlay, 2002). One participant was known to the PI from his previous admission to PTRP while the PI was a staff member of that unit. The rapport developed from that previous admission helped to give additional context to the interview as well as inform probing questions. Flexible scheduling was used to ensure interviews occurred at a time when participants were most rested. Additionally, when participants became tired during the interview, the PI had flexibility to offer completion of remainder of the interview at a later date (Carlsson, Paterson, Scott-Findlay, Ehnfors, & Ehrenberg, 2007). Both participants who did become tired during their interviews declined this flexible option. Questions were trialed for phrasing and sequence (Paterson & Scott-Findlay, 2002). Extensive probing may frustrate interviewees resulting in a shortened interview so these techniques were avoided. Finally, flexibility in coding and analysis was used to capture the depth and breadth of data is imperative (Lloyd et al., 2006). Using these interview techniques with persons with TBI facilitated access and articulation of abstract ideas.

VMSM interviews were conducted by PI in a private room on the PRP unit to ensure privacy. The PI used various active listening techniques, including pauses and judicious probes to encourage VMSM response. VMSM interviews lasted between 40 and 80 minutes and were

digitally recorded with permission. Digital files of interviews were uploaded and saved in a secure folder on a secure VA computer. These files will remain secure for at least seven years or as required by future VA information security policies.

Refining Data Collection

One of the benefits of GT is the ability to evaluate data collection tools and refine questions as new information is obtained. Following each interview, the PI reviewed data to determine if the content adequately reflects the intended questions. Throughout this study, data did indeed reflect interview guide questions. No changes to the interview guide were needed. The evaluation of data collection procedures required the PI to document observations throughout the interview by recording detailed field notes. The PI recorded indicators of limited question comprehension (i.e. the need to explain a question) and specify how the question was explained to improve clarity on a field note. The field notes also included observations of subject fatigue (for example, yawning, loss of concentration, or frustration), noting how sessions were restructured to accommodate participants' needs.

Data Management

Transcription

Field notes and digital recordings of interviews were transcribed into Microsoft Word® documents by the PI. Recordings and transcripts were reviewed by a dissertation committee member and verified to ensure accuracy. These de-identified records were stored on VA password secure computers.

Coding

Interview data were coded and analyzed using the constant comparative method by the PI using qualitative analysis software program ATLAS.ti v.7. Constant comparative method is historically associated with GT (Speziale, Streubert, & Carpenter, 2011).The coding process involved reviewing interview and field note text, line by line. Once documents were imported into the program, ATLAS.ti v.7 assigned consecutive numbers to every line of text. This process facilitated coding and data retrieval. The PI was able to select a specific part of text and then assign a representative theme or code to the text segment. To support data analyses, the PI retrieved all data related to each code. Themes were generated by comparing and contrasting concepts. The PI presented preliminary themes to subsequent participants for their input and made revisions as needed to finalize the themes. The coding process proceeded in this manner until all interviews and field notes were coded.

Analyses

Data were systematically analyzed using the constant, comparative method used in qualitative analysis of previous TBI studies (Hunt, Le Dorze, Trentham, Polatajko, & Dawson, 2015; Levack et al., 2014a). The analysis method as described in Corbin and Strauss (2008) involves progressively more abstract categorization of data. Each interview was coded and analyzed sequentially after each transcription. Each response was linked to research questions to ensure structure was in place to answer research questions. Every response in the interview was assessed for relevance and labeled with an appropriate code. The codes placed within an individual interview were compared to each other. This comparison provided an assessment of interview consistency. Each coded interview was then compared to previous interviews. This process provided additional codes until no new codes or themes emerged. Field notes were

analyzed in the same way. Once all data were coded, text related to individual codes was retrieved and relationships and patterns were defined.

Memoing

Documenting memos is an essential component to qualitative data analysis (Corbin & Strauss, 2008; Speziale et al., 2011). Memos move the researcher from raw data to concepts facilitating the discovery of themes (Corbin & Strauss, 2008, p. 120). They are, in a way, a conversation between researcher and data. For the PI, memos are particularly important given her personal connection to the topic of TBI. Experience with family members and years of working with VMSMs after TBI give additional context to inform analysis. Memos were drafted throughout the course of the study as a way to question the data as well as facilitate the PI's conceptualization of the data. Each memo included a time stamp and heading to aid in cross referencing concepts. Memos included drawings and figures symbolizing the SIR process as described in the data. Over time, the memos became more specific, often connecting two or more codes. It is in this way the PI synthesized the data to form a meaningful description of VMSM self-identity reconstruction after TBI and rehabilitation experiences that impact this process.

Trustworthiness of Data

The PI followed guidelines for ensuring the trustworthiness or quality of conclusions drawn from qualitative data throughout the study. The criteria of credibility, transferability, dependability, and confirmability were applied to achieve methodological rigor. Credibility of the findings is generally documented through member checking (Speziale et al., 2011, p. 48). The PI presented participant identified themes to subsequent participants to confirm accuracy of interview analyses. Transferability was strengthened by recruiting VMSMs with varied backgrounds when possible given the slow recruitment pace. The different experiences of these

VMSMs provided a rich description of the experience of self-identity reconstruction after TBI. Dependability is derived from confirmability (Speziale et al., 2011, p. 49). Definitions of codes, revisions to the coding framework, analysis memos and the PI's personal reflections related to coding decisions were maintained to provide an "audit trail"—one approach for ensuring that conclusions remain objective and confirmable by others (Speziale et al., 2011, p. 49). Dissertation committee members with extensive qualitative data analysis experience served as peer debriefer for the PI providing feedback on coding and analysis decisions. Debriefing is another approach to ensure trustworthiness of qualitative data (Speziale et al., 2011, p. 48).

Burdens, Risks and Benefits to Participants

This study presented minimal physical risks to participants as it only involved an interview. As minimal as this risk was, VMSMs with TBI and other mental health co-morbidities require special considerations to further minimize risk. Considerations and plans for accommodations are now discussed.

Participant Burden

Given the severity of TBI in the PRP population, burden associated with data collection procedures was a concern. Completion of the interview and Demographic Checklist did not require VMSMs' physical effort. However, the effort put forth to concentrate and respond to questions may have tired, taxed or frustrated VMSMs. To minimize burden, VMSMs were advised at the beginning of the interview that if they tired and wanted a break, simply request such and the interviewer would oblige. If the VMSM expressed physical signs of fatigue (yawning, lack of focus, irritability), the interviewer offered to postpone further questions until VMSM was rested and ready to fully participate. No participant asked to stop their interview, but

instead, the few who did exhibit signs of fatigue requested the interview continue even when the interviewer offered to reschedule.

Participant Risk

It was possible specific questions or the stimulation of being interviewed might cause physical discomfort (e.g. fatigue), or psychological distress (e.g. irritability, feelings of sadness, thoughts of suicide). Discussion of self-identity may have caused emotional distress to participants. The PI was experienced in interviewing individuals from a wide variety of backgrounds including clinical and cross-cultural populations. Before conducting interviews independently, the study PI conducted three mock interviews with simulated patients. These were observed by committee members for quality (e.g. effective use of silence and prompts, rapport with interviewee) and special considerations for persons with TBI.

The interviewer was trained to identify patients who display suicide risk through trainings, readings and VA developed video. The interviewer completed VA research training on Suicide Prevention. Interviewer also completed training with assigned readings and video training:

(a) Pease, J. L., Forster, J. E., Davidson, C. L., Holliman, B. D., Genco, E., & Brenner, L. A. (2016). How Veterans Health Administration Suicide Prevention Coordinators Assess Suicide Risk. *Clinical Psychology & Psychotherapy*.

(b) One-hour video "Suicide Prevention: It's Everyone's Business, Parts I and II," available for viewing through the VA Employee Education System. The interviewer viewed this video on a VA computer and completed a pre- and post-test to gauge new learning acquired.

Referral Processes for Suicide Ideation

The researcher assessed for signs of emotional distress. If participants demonstrated signs of distress or if the participants voiced distress, they would have been immediately referred to the unit mental health provider. If the participant exhibited adverse reactions during the interview, every effort would have been made to encourage him or her to seek mental health services available on their rehabilitation unit. Only in cases where violent or suicidal ideation was evident would the PI take direct action by notifying unit mental health providers on the respondent's behalf. Unit psychiatrists were available by cell phone during daytime hours. During off-tour hours the on-call rehabilitation psychiatrist was available. Following each case in which a participant was identified as being at risk, there would have been a debriefing session with the research team to review the event and to improve responses. No adverse events occurred during this study. Participants were informed of their right to withdraw from this study at any time. Withdrawing from this project would not affect the participant's continued treatment within the VA system. No participants chose to withdraw.

Participant Benefits

This study provided no direct health benefits to the study participants. However, some participants may have benefited from the ability to talk about their experiences and having someone listen to them. Moreover, information from this study may help service providers enhance rehabilitation interventions to facilitate self-identity reconstruction for VMSMs with TBI.

CHAPTER 4: Findings

INTRODUCTION: THE STUDY AND THE RESEARCHER

This chapter presents data collected, results of the data analysis and describes the findings of the study. It begins with an introduction to the development of this study and the researcher's personal history that influenced that development.

This study was developed over several years. Much of the drive to develop and complete this study came from the researcher's personal experiences. First, the researcher had an uncle who survived an automobile accident in the 1970s. This uncle suffered a TBI and came home to his wife a 'changed man'. He was violent and turned to alcohol as a way to deal with his poor memory, short temper and changed behaviors. His wife divorced him soon after his accident. He continued to suffer with feeling lost and changed until he took his own life in the 1990s. Second, the researcher's daughter suffered a brain injury while in elementary school. The daughter was changed from the child the family had grown to love. The lovely, strong leader of the playground was now unsure of herself, forgetful and struggling with even the simplest tasks. The younger sister she once adored, was now such an annoyance, the daughter would intentionally harm her pre-school sister. Eventually the researcher began working as a nurse with Veterans with TBI. During her conversations with her patients, she recognized a common struggle—the struggle to construct a new self-identity after TBI. These experiences of changed identity brought questions to the researcher of how identity changes, and how she, as a health care professional, could facilitate positive change. Her curiosity carried her to the literature on self-identity reconstruction. Much of this work has been focused on the outcomes of self-identity reconstruction and predictors of positive self-identity. Few works have defined the process of SIR and none were found that define the process within a Veteran population. It is from this

place the researcher developed this study to look at SIR using GT to extend an established theory (Gracey) in a new population (US Veterans and Military Service Members).

PRESENTATION OF DATA AND RESULTS

Data and results of analyses are presented using the demographic questionnaire and study questions as a guide. This organization is used to first describe the sample and then to demonstrate this study was successful in answering all of the proposed study questions as well as guide the reader through a logical sequence. I will start with the sample description then address each study question for a total of six questions.

SAMPLE DESCRIPTION

This study successfully recruited 20 participants. Participants varied in age, gender, marital status, education and cause of TBI.

Demographic	*TOTAL*
Sex	
Men	80% (n=16)
Women	20% (n=4)
Race	
Caucasian	80% (n=16)
African American	20% (n=4)
Ethnicity	
Non-Hispanic	100% (n=20)
Age	
Median	39

Range	18-64

Table 4 Sample Demographics

Table 4 provides a general description of the sample demographics. Several participants were years out from their rehabilitation admission. Age is at the time of interview. Though recruitment was at times difficult, the sample represents diversity of those persons admitted to the study polytrauma units. During recruitment, no persons of Hispanic ethnicity were eligible for inclusion in this study.

Table 5 Sample Characteristics provides information on marital status, education and productive activity at the time of participant's injury. During active duty service, most MSMs take college courses for credit. This is reflected in this study sample. Eleven participants were active duty at time of accident which qualifies as full-time employment. Of the Veterans, four were employed full-time, two were employed part-time and one Veteran represented each of the remaining categories (full-time student, seeking employment, retired).

Table 5 Sample Characteristics

Characteristic		*TOTAL*
Marital Status	Never Married	45% (n=9)

	Divorced	35% (n=7)
	Married	20% (n=4)
Education	Some College	55% (n=11)
	Undergraduate Degree	20% (n=4)
	Graduate Degree	15% (n=3)
	High School Diploma	10% (n=2)
Productive Activity	Employed Full-time	75% (n=15)
	Employed Part-time	10% (n=2)
	School Fulltime	5% (n=1)
	Seeking Employment	5% (n=1)
	Retired	5% (n=1)

Injury characteristics are presented in Table 6 Injury Characteristics. These were taken from the medical record, most often the admission history and physical. Most participants had documented frontotemporal injuries. The frontotemporal region of the brain is known to be home to emotional control, social interactions and personality. Emotional control, social interactions and personality are all known to influence one's sense of self.

Median months post injury was different by Veteran status. This is an artifact of changed inclusion criteria. Initially, participants had to be currently admitted to the polytrauma unit for TBI rehabilitation. Recruitment challenges and recognition of need for time to reflect on the process of SIR prompted a change to include persons who had ever been admitted to polytrauma for a TBI. Naturally, those who may have been active duty at the time of rehabilitation are often

retired (medically or time served) within years of the injury. This progression to Veteran status supports the higher number of months post injury presented by Veterans.

Table 6 Injury Characteristics

Injury Characteristic	*Veteran*	*Military Service Member*	*TOTAL*
Closed Head Injury	50% (n=10)	35% (n=7)	85% (n=17)
Open Head Injury	5% (n=1)	10% (n=2)	15% (n=3)
~~Frontotemporal Injury~~	~~40% (n=8)~~	~~25% (n=5)~~	~~65% (n=13)~~
Median months post injury (range)	26 (2-108)	4.5 (2-10)	8 (2-108)
Rehabilitation Intensity (median hrs/wk)	4 (0-30)	20 (4-30)	20

The study sample varied in other ways as well. Two of the twenty were in a PTRP program for the second time since their injury. Two of the twenty had significant mobility deficits, relying on assistive devices for independence. Three of the twenty had significant expressive verbal communication impairment. Participants came from several states, including Florida, but no participant was from the local Tampa area. All inpatient participants planned to return home at discharge.

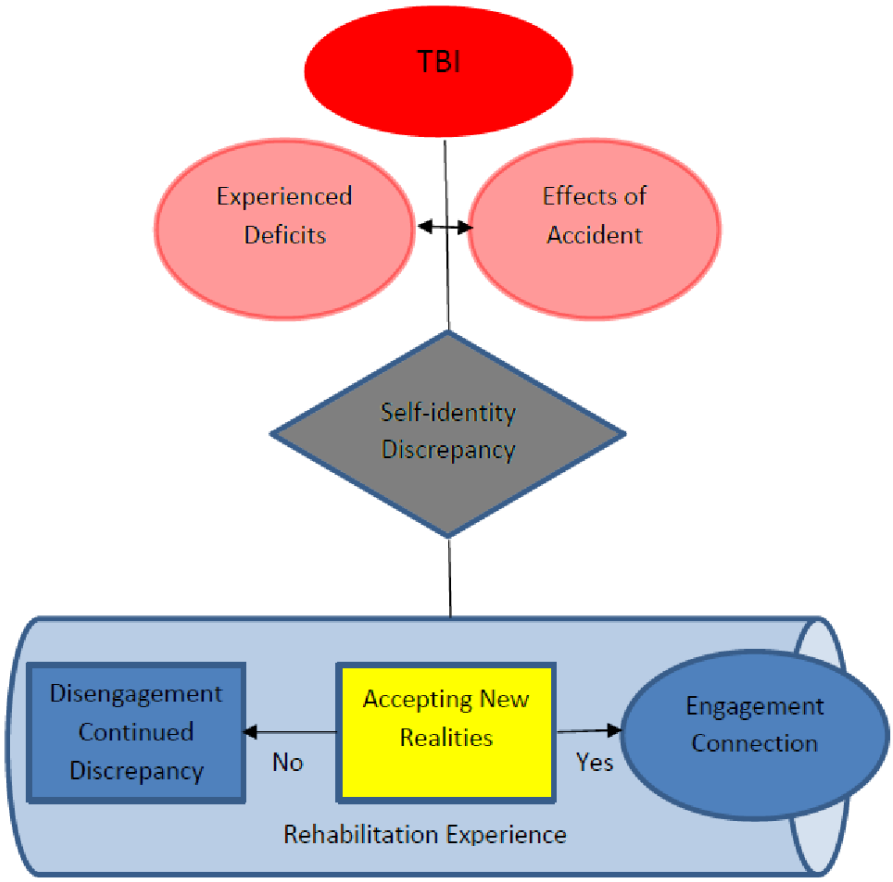
Each participant brought their own story to the study. To summarize these unique individuals as a series of categories or numbers misses the rich experiences and stories they provide. Table 4 Participants provides a brief summary of each individuals characteristics as well as a pseudonym for each participant. Moving forward, interview quotes are attributed to individuals using their pseudonym.

Table 4. Participants

Pseudonym	*Gender*	*Age at injury*	*Injury*	*Occupation at time of injury*	*Months in Polytrauma*	*Months since injury*
Alice	F	17	Motor Vehicle Accident	Student	6	9
Bryan	M	28	Motor Cycle Accident	Military	2	6
Carl	M	29	Motor Cycle Accident	Retired	3	3
David	M	25	Motor Vehicle Accident	Musician	1	50
Evan	M	44	Bicycle Accident	Military	5	7
Frank	M	30	Bicycle Accident	Military	3	7
Gary	M	39	Assault	Military	1	2
Hannah	F	29	Fall	Reserves	6	10
Isaac	M	58	Motor Vehicle Accident	Military	1	2
Joseph	M	44	Fall	Military	2	3
Ken	M	40	Bicycle Accident	Student	2	3
Larry	M	55	Motor Vehicle Accident	Unemployed	4	17
Michael	M	52	Motor Vehicle Accident	Unemployed	2	26
Nancy	F	33	Gun Shot	Student	5	7
Quincy	M	59	Assault	Medical	4	54
Rob	M	54	Fall	Administration	14	94
Penny	F	31	Pedestrian Accident	Service industry	13	66
Sam	M	52	Fall	Administration	1	15
Timothy	M	23	Bicycle Accident	Military	3	6
Olympian	M	24	Motor Vehicle Accident	Service industry	6	108

Figure 2. Self-Identity Reconstruction Model provides an overview of findings answering research questions related to Aim 1. Each of the research questions follow with detailed findings.

Figure 2. Self-Identity Reconstruction Model



1.1 How do VMSMs describe their current and aspired self?

Understanding participant description of current and aspired self is key to identifying changes that may have occurred after injury. These changes capture the concept of self-identity discrepancy.

Current self

Participants responses to 'current self' reflected four themes 1) Improved relationships 2) New interests 3) Changed priorities and 4) Frustrated. Those currently inpatient described a sense of growth. Those currently outpatient reported a continued effort to grow and pursue meaning in their lives. Participants, in general, described their current self in a positive light.

Several participants talked about improved relationships after their injury. Some discussed reconnecting with loved ones and friends. Some reported recognizing the importance of family. Changed relationships also included an improved understanding of others' strengths. Evan reported being preoccupied with work and assuming his wife was not capable of various activities prior to his accident. "I thought she was pretty to look at, you know?". Throughout his medical and rehabilitation admission, his wife stepped up to advocate for him when he was not able. His needs and her subsequent actions fostered an appreciation for his wife, and improved relationship overall. "I listen to my wife much more…I listen to what she says…she's a lot smarter than I thought."

New interests were also reported as part of participants' current identity. Timothy reported being a 'gym rat' prior to his injury, focused on nutrition and optimal health. After his injury, Timothy stated, 'I watch TV, eat ice cream and research animals now. I never ate ice cream before. Now, I just want to enjoy myself.'

These reports of wanting to enjoy oneself and improved relationships lead into the next finding. Most participants reported changed priorities. Larry was unemployed, living alone and by his own report, 'partying' most weeks prior to his injury.

> *'Obviously somebody saved my life because the police and doctors were telling my mom I would succumb to my injuries…and now I have to do things good for my mom because this is my second chance. I don't drink anymore. I don't fight.'*

This changed priority positively influences his daily decision making. He makes choices for healthier habits like going to the gym and talking to people when conflicts arise. He is one of several participants reporting changed priorities as a positive life change.

The final theme participants used to describe their current self was frustrated. Early on in recovery there can be a sense of frustration when a person is not permitted to act autonomously. Trying to do simple things (i.e., run, calculate a tip) can be very frustrating. As older adults who may have spent their career performing certain tasks, the sudden change can be overwhelming. Rob was a high performing team lead through his twenty-year military career and beyond. He managed large groups of employees on tight time lines daily. Some days, years out from his injury, he cannot complete even a simple task (i.e., address an envelope). He summed his frustration up in this statement,

> *'Now I am more along the lines of frustrated. Still, I go back to things I used to be able to do. So I used to be able to coordinate (things). When I do and it works it's a good day. Frequently it doesn't.'*

Aspired to self

Per Gracey's Y-model, aspired to self is captured through a description of self prior to injury. This was discussed at the beginning of each interview not only as a way to capture

aspired to self but also as a way to build rapport and get to know each participant as an individual. Participants responses to aspired to self-reflected 4 themes 1) Go getter 2) Worker 3) Independent and 4) Happier.

Most described themselves using characteristics as opposed to roles. Several had negative perceptions of their pre-injury SI. Those who had negative perceptions of their self before their injury generally were the participants who felt the injury was a second chance at life. Alice reported being 'overly compliant' and 'always stressed'. Her time since her injury has been a time of growth and change. 'Before I was a caterpillar. I went into cocoon for my coma and then I broke out and I'm ten times as beautiful!'.

Those who tended to describe their pre-injury identities with positive characteristics tended to still struggle with their current identity. Olympian, who was injured 8 years ago, recalls himself as 'I was a go getter...I always had two beautiful women on either arm when I went to clubs…I was always a go getter and the life of the party'. He continues to search for ways to be more active and develop social relationships.

Some participants described their aspired to self in the context of work. When asked to describe 'who you were before your injury' responses included 'surgeon' (Quincy) 'pilot' (Gary) and 'soldier'(Hannah). Others spoke to their focus on work over relationships. Joseph spent much of his time at his job, frequently called out to attend to urgent affairs at the expense of personal relationships. 'I was very focused with what I needed to do for work.'

Aspired to self also includied descriptions of character, most often as independent. Independence was broadly defined by participants to include bravery (taking on difficult tasks), autonomy (taking control of personal decisions) and self-sufficiency (performing tasks

independent of assistance). This character trait of independence is not surprising for the military and veteran population (Peterson & Seligman, 2004, pp. 216–222)

Nancy was attending school during the day, working night shift and caring for ailing family members. She often would get four hours of sleep a night while trying to balance competing responsibilities. At the time of her injury she was not relying on others for help. 'I am a very independent and determined woman at heart. I can do anything. That hasn't changed.'

Several participants, particularly those with more severe impairment and still within a year of injury, reported being happier before their injury. Those who reported being currently frustrated tended to be the participants who reported being happier before their injury. Frank was a special operations team member at the time of his injury in theatre. He was an active person who loved his job, his team and making sure all were prepared to act when called on. He spent time off work 'hanging' with team members, training his working dog, and working out. Since his injury he has been in the hospital for seven months. He is away from his team and dog, has limited mobility and just recently regained the ability to clearly articulate his thoughts. In sum, Frank reports, 'I think before my injury I was more happy with everything I was doing.'

1.2 How do VMSMs describe their experience of the process of SIR?

VMSMs described their SIR process experiences in a variety of ways. Common themes to characterize the process were 'hard', 'ongoing', and 'complete'. The actual process included self-identity discrepancy, accepting new realities, followed by engagement and connection.

Several participants described the SIR process as 'hard'. Accepting loss (i.e., roles, abilities) was described as a difficult process. Accepting new limitations was also difficult. These limitations included limited functional abilities (such as balance and vision) as well as limited social activities (due to medications, mood disorders or lack of transportation).

Hannah had been in rehabilitation for six months at the time of interview. She had struggled with mental health and legal issues as well as her physical recovery after her injury. She was preparing for discharge with goals and roles established as part of her new self-identity. She had a solid plan for her life moving forward. She felt sharing her difficulties with newly injured VMSMs would help them prepare for the hard work, knowing their newly reconstructed self-identity would be worth the work.

Some participants had more basic needs to address (e.g., housing, income) and were not provided the luxury of time to reflect. On interview, these people did not have a clear vision of purpose and identity. Several participants were keenly aware of the lack of programs similar to PTRP that provide months of support to self-reflect, explore and connect for their civilian peers.

The majority of participants reported they were still reconstructing their self-identity. They viewed this as an ongoing process that would continue for years. Some reported finding their life purpose was key to completing their SIR and they were still searching.

Very few participants felt they had completed the process of SIR. One participant, Isaac, felt although his injury was moderate, that he had recovered completed to his full aspired to self-identity within weeks of injury. With further discussion, he did identify new perspectives and 'lessons learned' from his experience. He felt this was a growing experience that may influence his perspective on brain injury, resources available and VA health services overall. The only other participant who felt he had completed SIR, Quincy, was 5 years out from his injury and inpatient rehabilitation. He reported knowing who he was and what he wanted out of life. He realized his desires (i.e., go back to work, socialize with wealthy, educated women) will never come to fruition but feels this is because of others around him and not necessarily because of his personal changes. He still sees himself as an articulate professional which is not in keeping with

his current abilities. He has not yet accepted his identity changes (e.g., loss of role-surgeon). He is currently quite dissatisfied with his life because of this discrepancy.

The ongoing process of SIR starts with recognizing discrepancies. This may take days, months or years. Once these are recognized the person with TBI either accepts these as real or searches for the thing that is 'missing'. If the person does not accept these changes, they tend to remain frustrated and irritated even years later, struggling against the reality they do not accept. If they do accept these changes, then the process of reconstruction can begin. Participants explored possibilities through engaged experience (rehabilitation). They then connected to rehabilitation staff, veteran peers, family, friends and themselves. This process takes time, self-reflection and may be described as hard.

The first step in SIR was recognition of identity changes. Recognition of changes often started to occur while in acute care hospitals. For those with more severe deficits, this recognition did not occur until months post injury, typically while in rehabilitation. David was initially admitted to PTRP soon after his TBI. During his first admission, he was at times difficult to talk with as he felt he had not changed. He would argue with staff and refused to follow unit rules. He did not readily accept guidance and was eventually discharged to home. After a few years at home, with limited rehabilitation, he recognized a need to return to PTRP with a new understanding of his changed identity. He had this to say, 'So the biggest thing for every brain-injured person…would be awareness that they actually have been in an injury…they almost died…and they're still alive'. Recognition is essential for the next step, acceptance of new realities, to occur.

Participants reported the second step in this process was acceptance of their new realities. This acceptance occurred at varying times post injury. Some participants, like Isaac, reported accepting their new realities within the first weeks after injury. Others, like Quincy, were years out and still did not accept the changes imparted on their identities by their injury.

Acceptance was often referred to as one of the most challenging aspects of TBI recovery and SIR. David continued his description of his SIR process, 'Ever since the wreck happened, it's not the normal me. You guys try to get us back to the normal us. But if we can't accept the fact that we've changed, there's no getting us back to normal.' He explains acceptance of new realities as essential not only to his SIR but also to the rehabilitation process.

As participants accepted their new realities post TBI, they often expressed openness to new opportunities. Participants spoke of a desire to explore new life paths, hobbies and goals. They often report this exploration as being facilitated by rehabilitation staff (e.g., recreational therapists, speech therapists and psychologists). Rehabilitation staff met with participants and guided their exploration with various activities such as writing assignments, adaptive sports, new leisure activities, goal setting and conversation. Brian reported several conversations with his psychologist. He had always been very goal oriented and was feeling frustrated with the sudden change in his life path. Through his conversations with psychology, he recognized he was in control of his SIR and planned to explore new paths to the same goals. 'I just have to figure out how to get back to the goals that will better me overall.' All participants reported this rehabilitation experience of facilitated exploration as being influential in their SIR.

Participants spoke extensively of their connection with self and others as part of their SIR. Connection with self was important as a way to understand 'who' participants were before their injury and post injury. Often this connection with self was seen in a positive way. Alice was

still in high school when she suffered her TBI. As a young adult (17 years old), living at home with her parent, she had limited life experiences to draw on in defining her identity. Reflecting on her previous identity, she described herself as 'too compliant', 'stressed' and 'bad'. As she worked towards a new identity, she described herself as finally resolving to stand up for her wants now that she knew who she is at heart. She summarized her new connection as, 'Before I was a caterpillar. I went into a cocoon for my coma and then I broke out and I'm ten times as beautiful.'

Connection to others was also a part of the SIR experience. Participants discussed new, improved connections with family members, and friends as part of their SIR. This connection came whether participants were in rehabilitation or not. Nancy was very open about her husband's support. Her injury left her with significant functional deficits and a changed appearance. Prior to her injury she was busy with school, work, and other family obligations. Her husband was not a focus of her daily activities. When asked about what support was important to her SIR experience she quickly responded,

> *Family support. My husband. I talked to him. I said listen I may not return fully. This is not a fair life for you. I'm giving you the ability to walk and I will fully understand it…. I will always love you the rest of my life …. you can continue to live your life. He recited our wedding vows back to me. He just recited them. And then when he got to the sickness part he was like 'Well I guess the sickness I was expecting a little bit later but here we are'. He has just been so supportive.*

His support fostered a renewed connection to her spouse. She continued to say his love for her, despite her changed looks and abilities, was a source of daily motivation and confirmation that

she was still deserving of a happy life. She actively works to strengthen this connection through communication and therapy.

Participants also reported connection to rehabilitation staff as a critical component of their SIR during their rehabilitation experience. Many reported this connection as key to individualized care and a feeling of being more than 'just a patient'. Rehabilitation staff facilitated exploration. Joseph reported improved understandings of the rehabilitation process because of his connection with his recreational therapist.

> *You don't really understand exactly she's not just the rec lady. She doesn't just take you to yoga. I used to be like why do I have to go to yoga? Why do I have to go deep sea fishing for a day? Like these aren't things I need? I need speech I need OT I need these other things. …they're telling you 'Hey this is us evaluating you making sure this is part of your community outreach'….That's when it started to become like okay, I'm not here for what I need in my head but I'm here for the things that they know that I need….*

Reflection on one's experiences and feelings was also a component to SIR. Taking time to sit back and consider what has happened, why it has happened and how one feels about the experience helped to make sense of what can be a confusing time. That time was often given while in PTRP. Length of stay was typically 2-6 months with most formal therapy being competed weekdays by 4pm. Some participants specifically reported those 'down times' as their best time for self-reflection. Reflection could be structured or unstructured. Participants reported homework assignments that facilitated reflection in a structured way. Gary found the structured assignments from his speech therapist to be helpful in creating a process to walk him through reflection.

I wrote this 3-page narrative …. and at the end of the day I was left with who am I? My entire life I've been all these different people and the majority of my life I've had this identity of being a military fighter pilot. Now that that's been effectively stripped for me I was like well now who I'm going to be? You know? So a lot of it was reflection, being introspective and really finding out what my qualities are and who I really am because for the next five years I'm not going to be (Gary) the fighter pilot, I'm going to be just (Gary).

Other participants described being in a pause. Their life was described as being on hold until they create their new identity. Olympian feels his life stopped the night of his accident. Though he has made much functional progress over the years, he still feels as if he is not progressing. 'I'm in a pause. I don't know what the future is going to be like.'

The SIR process was experienced individually. Acceptance of their new realities was key to progression. For those that did not accept their new realities, they were disengaged from friends, family and therapeutic activities. Their continued discrepancy was expressed as anger and a general dissatisfaction in life. Once their new realities were accepted, participants became more engaged in their rehabilitation and relationships. They took time to reflect and explore potential new identities with the help of those people to whom they connected (e.g., self, family, rehabilitation staff).

1.3 Who is important to VMSMs throughout that process and why?

Participants reported family, rehabilitation staff, friends, self and other VMSMs with TBI as important throughout the process of SIR. Each of these groups provide different supports.

Overwhelmingly, family provides emotional support and advocacy. Most participants provided some statement as to how important family was to their SIR. Gary lived out of state

from his parents when his injury happened. They received the call about his accident and were at the hospital with in hours. Initially he was unable to clearly understand what clinicians discussed with him. His parents were there to make treatment planning decisions. He states, 'They (parents) were supportive in so many ways emotionally, physically, …helped me make decisions and ask appropriate questions.' This support created a feeling of safety that helped Gary focus on his SIR knowing his parents were there to protect him, taking responsibility for difficult decision making.

Rehabilitation staff provide safety and understanding. Participants shared their connection to rehabilitation staff as critical to their SIR. Staff connected with participants on a personal level, sharing family stories and taking time to listen to non-clinical concerns. This openness fostered a feeling of safety and understanding. Evan suffered multiple polytrauma injuries while deployed. He had chronic pain and reported feeling previous providers did not believe he has pain. He appreciated rehabilitation staff's treatment of him. 'These guys working with me here changed me. They are (helping) me remember things and …talk to me like a normal human being.' Evan strongly believed rehabilitation staff understood his situation and would do what they could to respect his need for pain relief. This understanding built his trust for staff. As his trust of staff developed, he felt safe to follow staff recommendations while exploring potential new identities.

Friends provide connection to pre-TBI interests and emotional support. Evan was part of a motorcycle riding group of Veterans. He spent years in this tight knit group. When he had his injury, his friends came to the hospital on their bikes and parked in an area he could see from his room. His friends visited, talking about their ride to the hospital and sharing various group news. He continued to rely on them to keep abreast of group activities throughout his rehabilitation

stay. Frank suffered a severe brain injury while deployed. He has aphasic for months. During this time, he recalls friends came to visit, driving long distances, spending the day with him even though he had limited communication ability and supporting his wife. 'All my friends…have my back and I just know each step I take forward here is a little bit more defining.'

Participants reported they were instrumental in their own process of SIR by providing meaningful goal setting, perseverance, advocacy. Rob was an active leader who often multitasked and kept a calm demeanor, even in crisis. His fall left him with significant expressive challenges. Through his perseverance and goal setting he has surpassed medical expectations. His comment on this success was, '…there's nothing easy about this. Pushing on and keep pushing on…'.

Finally, other VMSMs with TBI provide perspective. Participants often reported having to share their rehabilitation experience with other VMSMs was influential to their SIR. Participants reflected on the bond military service creates. This bond created a feeling of safety that carried into their SIR experience. Many reported feeling safe to share their concerns and explore potential new identities with other VMSMs. Penny stated, '…They (VMSMs) were supportive. A lot of them had been through very similar things in the military. … there's a bond. Ultimately if there was a threat, we would have each other's backs.' Penny went on to share her feelings about this bond.

'…it was just like in a sense a deployment. It was like living in the barracks. You had a bed time. You had a chow hall. Men weren't around women. Women weren't around the men's barracks. There's a camaraderie that you got because when you've been deployed and been forced to be with people who are serving. You're all there together.

Interviewer: So the admission to PTRP is kind of like a deployment. Most people are scared at the beginning, excited about the opportunity but scared at the same time.

Yeah definitely. We're not in control. In a deployment (my) officers are telling me what I'm supposed to be doing. In PTRP you have staff telling you what to do. I think it's a pretty fair analogy.

Penny and her rehabilitation cohort used this bond to not only explore new identities, but support each other beyond their rehabilitation admission. They have created their own online community that often reaches out to each other when facing challenges.

Other participants spoke about the perspective provided by their VMSM peers. Isaac was struggling to engage in his rehabilitation. He was frustrated with his deficits and struggling to make progress. He referred to himself as lazy when first admitted. An older Veteran recognized Isaac's lack of engagement and offered advice. 'He said…'if you don't believe in you, you're never going to make it through'. And that's what I'm doing.' At the time of interview, Isaac felt he was no longer 'lazy' but a 'worker' who was going to make significant improvements.

1.4 What are facilitators to self-identity reconstruction?

Participants reported several things influenced their acceptance of their new realities. Facilitators to SIR were varied and did not seem to be associated with participant characteristics. Time, acceptance of new realities, understanding and individualized rehabilitation were all seen as facilitators.

Time, time to reflect and simple passage of time, was reported as facilitating SIR. Time for reflection was engineered into the polytrauma programs. This reflection was both structured and unstructured as noted earlier. Passage of time was also seen as a facilitator to SIR. Carl who

was only three months out from his injury, and still inpatient for rehabilitation, spoke of his growth over time, 'I'm growing and learning more and more every day.'.

Acceptance of new realities is a facilitator mentioned by those who were further along in their SIR. Though only two months out from his injury Gary was actively working on accepting changes and making plans to move forward with his reconstructed identity.

> *'Because at the end of the day that is who I am and that's all I know. I think moving forward I'm more aware of who I am …I just need to practice and operate under the identity of me being (me) versus me being my job.'*

Understanding was cited as a facilitator to SIR. Being seen as a human being with value, no matter their physical or functional impairments was key to SIR. Sam worked in high level administration prior to his brain injury. He suffered post traumatic seizures which left him unable to return to his job. He had been through outpatient therapies prior to his admission to polytrauma. His earlier rehabilitation experience was non-VA and oriented to functional outcomes. He stated his experience with VA rehabilitation staff and their understanding this way, 'I think a lot of it was…. staff were not just telling you stuff straight out of a book. They were actually processing it with you. They didn't use a textbook definition. They actually share the experience.'

Individualized rehabilitation played an important role in SIR. Participants reported personal connection with rehabilitation staff as important to this individualized rehabilitation. As participants shared their stories with rehabilitation staff, they were able to make personal connections. As staff got to know participants on that personal level, they were able to co-create meaningful goals with participants. Hannah, who has always been a goal oriented, 'type-A'

personality found rehabilitation staff were eager to meet her unique needs for structure, goals and greater reflection.

> *Most of it was goal setting and taking a look at myself as a whole. Trying to figure out the deficiencies in me as a person and my lifestyle so it was like life coaching. It was more than just immediate physical problems, they really tried to set you up for success and for the future.*

As unique as each participant was, each was able to identify facilitators to their SIR. These facilitators tended to be external to the participant. Most were modifiable with the exception of passage of time. Acceptance of change was a personal action taken by each participant. Though this is not external to participants, acceptance can be facilitated through program structure (e.g., time to reflect) and interactions with others (e.g., rehabilitation staff, VSMS peers, family).

1.5 What are barriers to self-identity reconstruction?

Barriers to SIR included the VMSM themselves and rehabilitation program culture. VMSM report their personal connection barriers, fear and denial of changes as barriers to SIR, typically after such barriers were resolved. Rehabilitation program culture, such as staff perceptions and actions that left the VMSM feeling devalued as a person, was also seen as a barrier.

VMSMs felt connection barriers impeded their SIR. These barriers were varied. Connection was impeded by distance from family, impaired communication and reluctance to share feelings with others. Participants who were hospitalized at a great distance from family reported wanting family closer to be more involved in rehabilitation as well as to facilitate remembering the 'who' they were before their injury. Carl was in rehabilitation on the west

coast of US while his family was on the east coast. Not only did he rarely see them due to travel costs, but did not have them there to advocate for his desires when he was less able to communicate. He was eventually transferred closer to family and reported great relief knowing his family could be by his side within hours if he had an urgent need.

Impaired communication was often cited as a barrier to SIR for those with receptive or expressive aphasia. VMSMs who were less able to clearly articulate their needs (e.g., to use the restroom) or feelings (e.g., fearful of rejection) found it difficult to connect to others. This lack of connection was seen as a barrier to feeling safe and understood. Without safety and understanding VMSMs felt stagnant, isolated and unable to move forward in their SIR. Rob was a social person who hosted dinner parties routinely in his home prior to his injury. He now struggles with receptive and expressive aphasia years after his injury. He has had limited success in developing new relationships and dislikes group activities he used to enjoy. 'Now my thoughts just roll around...but the conversation (has) moved on to something else. So, I just sit quietly and nod my head instead of participating in a conversation.' He only attends group activities when his wife insists on his presence. He rarely participates.

Others report denial of changes as a barrier to SIR. This is intuitive as you cannot reconstruct something you don't believe has changed. Carl stated he initially was resistant to hospitalization and any rehabilitation strategies suggested, 'I couldn't accept the fact that I was f***ed up far worse than I realized. I knew I had an accident, I didn't really believe it.' Once he accepted his changed abilities and identity, he was open to rehabilitation and exploring new identities.

Fear of inaccurate perceptions stifled VMSMs from taking action toward their reconstruction. Some feared they would always perceive themselves as 'broken'. Others feared

family would treat them in a negative way. Ken had family members who had suffered TBI and were unable to care for themselves. He feared his family would perceive him as functioning at the same level of this person. 'Seeing the way he was treated, I don't want to be put in that category and I believe that with this that can happen'. His fear prevented him from reaching out to family and making connections.

Fear of failure was seen in those who were closer to the date of injury. Some feared they would never find a new identity that was satisfying. Others feared they would not be able to return to their prior self-identity. Isaac was active duty for over 20 years when injured. His role in the military was his main source of self-identity. He had only been in rehabilitation for one month when interviewed. At the time, he had residual challenges with word finding and cognitive flexibility. 'Hopefully I'll be able to do what I was doing before I gotten into this accident. That's what bothers me.'

Being devalued as a person was a barrier that came up during several interviews. Alice reported being treated as a child but felt some of this was due to her young age. Much of her interview centered on retelling stories of being devalued by family and rehabilitation staff.

> *I still do sometimes feel like a fetus. Fetus is a metaphor but I feel … they view me as someone who can't comprehend what they are saying. I may have a brain injury. I may have super problems but …you do not need to speak to me slower, you do not need to explain what you just said 5 times.*

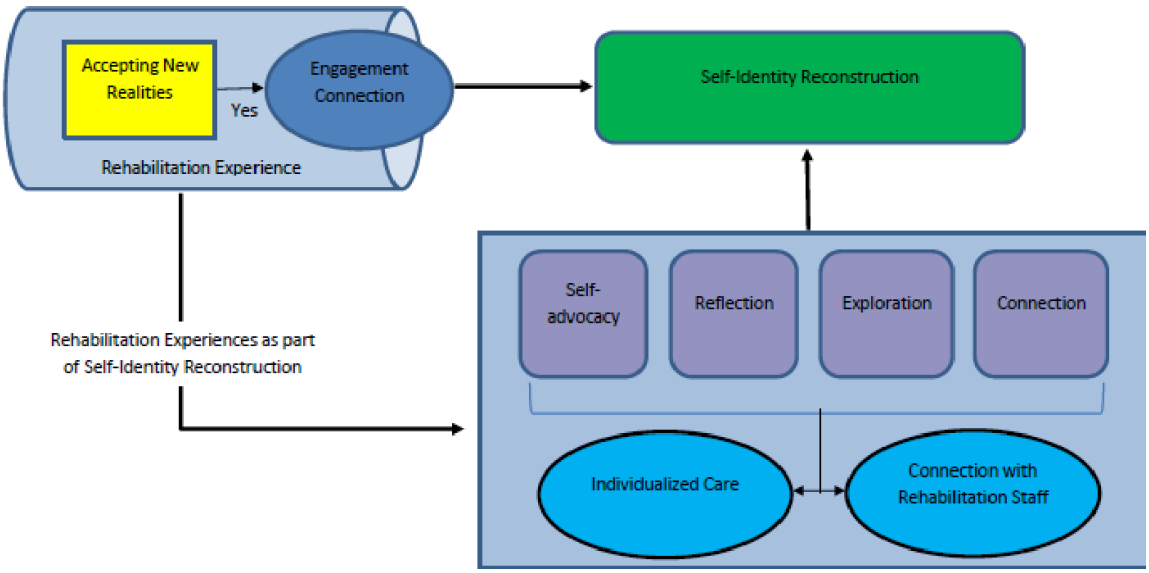
When staff treated her this way, she did not have trust in their abilities to help her reconstruct a new identity. In fact, she would actively avoid engaging with these staff, limiting her access to rehabilitation staff to connect with and establish individualized care.

Barriers to SIR identified in this study can delay establishing a supportive environment for exploring possibilities and limit personal connections. These delays can be resolved through therapeutic listening and recognition each person with a TBI wants to be treated as a valuable human being no matter their functional status.

2.1 How did these rehabilitation experiences impacted your sense of who you are now?

Rehabilitation experiences that influenced SIR are presented in Figure 3 Rehabilitation Experiences that shape self-identity reconstruction. The bottom right blue rectangle of the figure represents the constructs reported by participants as having influenced their sense of who they are now, after TBI. This is a continuation of Figure 2, simply showing more detail on the 'rehabilitation experiences' piece of the model. More detailed findings follow the figure.

Figure 3. Rehabilitation Experiences that shape self-identity reconstruction



Overall participants reported their experiences within the PRP positively constructed a new SI. Experiences reported by participants were self-advocacy, reflection, exploration and connection.

Rehabilitation staff needed time to assess participant abilities and develop treatment plans. Sometimes participants were more aware of their abilities than rehabilitation staff. Rehabilitation provided a venue for self-advocacy. Nancy was confident she would be able to make great strides in her gait if given the opportunity. She felt staff were being too cautious. She decided to advocate for extending her physical therapy goal,

> *I said 'I'm going to walk today.' He didn't think I was ready. I said 'I'm not leaving here until I stand up with these parallel bars and walk.' You know you're not going to get better if you don't get off your ass and try better.*

That day Nancy was able to walk. Other participants had to self-advocate to decline services. Rob's treatment team and wife wanted him to try hyperbaric chambers. When he arrived at the facility, he immediately knew it was not a good fit for him.

> *I was like this is not a thing for me to be in. I focus on things. I try to understand what's going on. I try to make it get better and I know if I was in one of those things and…. they were looking at me, it would be like … where you're going to be flipping the finger. It was several hundred dollars to do this. I was like this is not going to work for me. I will come out of that thing and have a fight with somebody. I'm just not peaceful enough to go through that kind of thing.*

This rehabilitation experience where he was able to advocate for himself was one of the first times after his accident where he exercised personal agency. He reported that experience as empowering, making him feel he had a voice worth listening to again.

Reflection was a crucial part of the rehabilitation experience. Many reported reflection as necessary to process changes and start to make sense of their new identities. Gary experienced several losses around his injury. Reflection was helpful as he attempted to accept his changed identity. He participated in a morning running group throughout his rehabilitation. 'I'm a runner and that's my time when I can be by myself and really be alone with my thoughts.' It was during these runs where he was able to better understand his feelings and develop new goals fitting his new identity.

Exploration as part of the rehabilitation experience was viewed as helpful in constructing a positive self-identity. Penny acquired her brain injury as a pedestrian hit by a vehicle. She felt unsafe around cars. 'Rec therapy would take me out for walks around parking lots and I was really scared of cars. I would totally shut down. Some of the staff were very persistent and

help(ed) me break down my walls.' Recreational therapy provided safe environments for her to face her fears and explore a new possible self-identity, one of a person who no longer lives in fear.

The majority of people discussed connection to rehab staff (most often physical therapists, occupational therapists, speech therapists, and recreational therapists) as influential. Staff encouraged independence, pushed people beyond what they felt they were capable of, opened them to new experiences, provided individualized care and cared for them as human beings. Participants felt 'safe' with staff. A few people reported negative interactions with rehab staff, specifically nurses. These nurses either devalued the person or made technical care errors noted by the person with TBI. These actions devolved any trust that might have been developing between participant and nursing staff.

Community experiences while in rehab were mentioned by only 3 participants. These experiences were positive and facilitated comfort in their new identity.

Connecting to other vets was viewed as a rehabilitation experience that was important to their SIR. Most participants reported the connection and shared experiences were helpful in gaining perspective on their own injury. Sharing stories and reflection with peers in off hours was reported as a positive experience. Some participants also reported trying to help others and 'leave no man behind'. This focus outside oneself was universally viewed as positive and incorporated into their reconstructed identity.

Overwhelmingly rehabilitation staff, their caring, connection, and individualized care was reported as having shaped their new identities. Staff fostered independence and confidence, listened to the person so as to say their thoughts were valued and allowed exploration. After

having lost so much, these 'small' things made a positive difference in who the person was and who they felt they could become.

Unanticipated findings

Connection to staff was expected. What was not expected was the limited mention of nurses in a positive light. Most positive connections were with the therapists who spent routine one on one time with participants. These connections were based on mutual respect and individualized care. Also unexpected was the experience of being labeled as brain injured. Several participants reported being labeled as a negative experience. Although a well-documented occurrence post trauma, reports of gratitude were unexpected based on the research questions.

Experiences with nurses tended to be negative. Brian shared his experience. 'Some of the nurses I've had to deal with here they normally annoy me. I don't like people talking to me a certain way and if they have a condescending attitude or anything like that, I snap right back.' Others spoke of nurses who insisted on providing medications when the participant did not require the medications (e.g., stool softener) or nurses who were unable to correctly identify medications. Several participants spoke of nurses who did not take time to wait for persons with slowed processing to respond or educate participants on procedures. While Ken was on the rehabilitation unit, he was fed with a feeding tube.

> *…one of the nurses was not very pleasant. I would talk to him. When he come in he would start yelling at me and he didn't tell me … I would mess up the feeding (by talking). He basically just b'ed (bitched) to me out.*

Ken reported a continued tense relationship with his nurse throughout the course of his rehabilitation. He found talking to his rehabilitation therapists easier and more pleasant.

A few participants experienced limited connections with nurses. Larry reported '…the nurses carry out treatments. … The nurses were there very specifically for their function like taking Vital Signs and administering medicine and making sure that I was immediately medically taken care of.' He had no connection to his nurses and spoke dryly about their activities during his rehabilitation. He reported no influence by nurses on his SIR.

Of all the participants only two had positive comments about nurses and their influence on their SIR. Frank was physically unable to do much for himself at the time of our interview. He found comfort in the nurses' ability to understand him and his needs. 'The nurses around here are pretty good. They know when I'm not okay with what I'm doing. They know to help and I know that when they're not helping, I can still be assisted so they're pretty good too.'

I also did not expect to hear so many participants say anything about 'being labeled' as brain injured. Isaac had family who had suffered brain injuries and did not want to be that dependent on others. His experience in groups was such that he felt he was being labeled brain injured.

> *I understand their thinking … that I'm like a couple of the other guys that's in here... I can just tell there something wrong with them. They can't talk and their speech is really weird. You know you can just tell when there's… something wrong with them. And I'm thinking they're trying to put me in that category and I don't want to be in that category.*

For Isaac, being labeled brain injured was equivalent to being 'useless'.

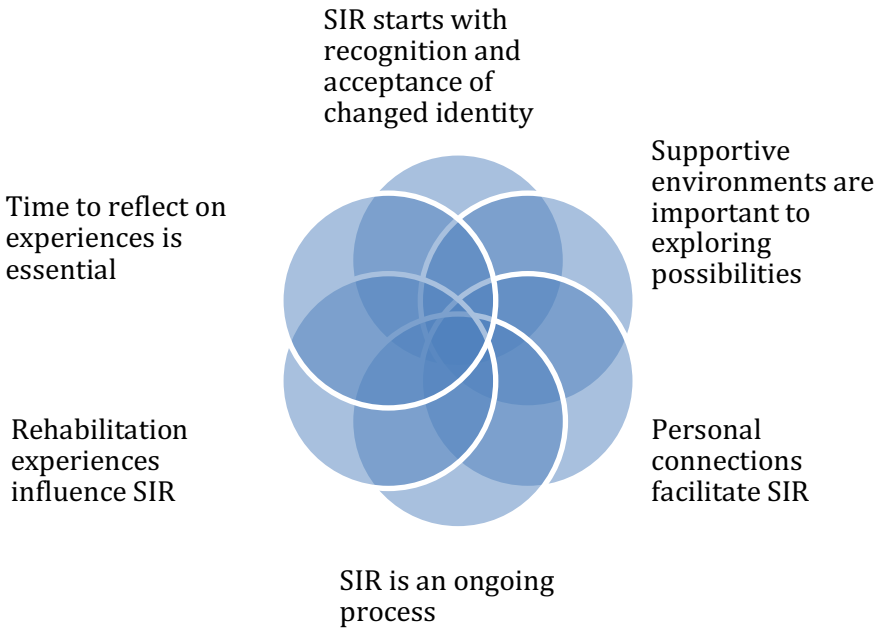
Finally, several participants reported a feeling of gratitude. Gratitude could have been for rehabilitation services or others were grateful for the changes in their lives post-TBI. Hannah expressed her gratitude.

'I feel thankful. I feel so very thankful. Like every second is precious. Life is short. Make every day as if it was your last day. And every day that you're awake is a day given to you by God. I've come to realize being in the hospital that when my alarm clock goes off, I'm more thankful. Where I used to be just like snooze, now I'm thankful.'

SUMMARY

SIR is an ongoing process that starts with recognition and acceptance of participants' experienced identity discrepancy. Once changes are recognized and accepted, VMSMs are able to imagine possibilities within the supportive environment provided by polytrauma rehabilitation. Time to reflect on these experiences is essential. Exploration in this environment often yields connection with self and others. These connections help to forge a new self-identity. Rehabilitation experiences influence this process of SIR, both positively and negatively. These findings support much of Gracey's Y model of SIR. These findings are illustrated in Figure 4 Study Findings.

Figure 4 Study Findings



CHAPTER 5: Discussion

This GT study worked to extend Gracey's Y model of self-identity reconstruction to a new population, Veterans and military service members. Data were collected and presented in relation to Gracey's model. Concepts such as connection with rehabilitation staff follow after Gracey's model concepts. A brief explanation of Gracey's Y model is presented followed by a discussion of how this study data fits into the model.

Gracey's Y model represents the relationship between change processes and outcomes in TBI rehabilitation. The model starts with the 'problem' which is identity discrepancy as experienced after TBI. This is often associated with maladaptive behaviors (e.g., denial of impairments) as short-term adaptive response to identity discrepancy. Building a trusting relationship with rehabilitation providers can help to lower the feeling of 'threat' created by the

discrepancy. This trusting relationship then creates an environment of emotional safety where the person with TBI is open to explore the meaning of their injury and imagine new possibilities for their life moving forward (Fergus Gracey et al., 2009; Ownsworth & Clare, 2006; Wilson, Winegardner, Van Heugten, & Ownsworth, 2017). Rehabilitation staff then work with the person with TBI to explore, experience and find new meaning within the context of their chosen environments (e.g., music). Social opportunities and time for self-reflection can support the person with TBI to step out of maladaptive responses and into adaptive responses that foster connection to self and others. This therapeutic process model is now further explored using this study's data.

Aspired to self

Participants were able to describe their selves prior to injury without much difficulty. Many wanted to return to that preinjury identity. Some reported no desire to return to their self prior to injury.

Current self in context

Participants were clear about how they currently described their selves. Most recognized they were undergoing a process and that growth towards their aspired selves was on the horizon.

Identity discrepancy

Participants openly discussed the discrepancy they felt between aspired to and current self. This discrepancy was uncomfortable for most and led to motivated actions to rectify their experienced discrepancy.

Imagining possibilities

Participants spoke of *exploring* possible new life meanings and identities. This exploration is more active than simply imagining. This may be due to the extended inpatient admission time and active facilitation provided by rehabilitation staff in this VA facility.

No longer constrained by threat or discrepancy

Participants overwhelmingly reported feeling 'safe' during their rehabilitation stays. Many reported this feeling was based on interactions with staff. Interestingly, when probed for details on the interactions or what the person did or said that made them feel safe, participants reported therapists (i.e., physical, occupational, speech language) 'looked' at them and talked with them in a positive and supportive manner.

Reconnecting with self and others

This construct of reconnecting with self and others was prevalent in this study as described above.

Reconnecting with self

Participants spoke of their reconnection with self as one of the more important connections. Without sense of who you are, it is challenging to create a new self. Participants reconnected with their self, typically through reflection and input from family.

Reconnecting with others

Connecting with family and rehabilitation staff was prominent in this study. Family provided support (emotional, decision making and financial) for the VMSM after TBI. Most relied on family solely for emotional support once they were admitted to rehabilitation. Rehabilitation staff provided a safe environment to share fears and explore new possibilities.

Significance to Nursing Science

Findings suggest a need for improved relationships between VMSM and rehabilitation nurses. To improve relationships, rehabilitation programs must include structures to support nurses taking time to talk with VMSM. Hiring practices that actively seek nurses who subscribe to a more holistic practice will match the nurse to the task (facilitating a positive SIR). Lower patient ratios can facilitate therapeutic conversations by building in time for each nurse to connect with their VMSM. Motivational interviewing is one technique that could be used to understand the VMSM goals for rehabilitation and beyond. Encouraging rehabilitation nurses to engage the whole person permits these nurses to work to the full extent of their scope of practice.

Nurses are well positioned to impact rehab experiences. Nurses are on staff every hour of every day. These 'down' times when there is no structured therapy are times nurses can influence SIR. Nurses can walk with VMSMs and talk about their goals. Nurses can watch movies with VMSMs and garner their feelings on relevant topics. This is not only a good way to practice cognitive flexibility but also a good way to connect. There are many options nurses can use to practice in a more relational manner, improving SIR. It is a matter of knowing what options exist and acting on them.

Nurses in particular are well positioned to discuss goals, make reflections, and provide opportunities to resolve discrepancies and construct an updated, adaptive self-identity. Our educational preparation supports our ability to ask questions, engage in conversations, and encourage exploration.

This study is the first step in a program of research to test the effects of a nursing intervention to promote self-identity reconstruction. These findings support the development of interventions directed at nurses and program directors to facilitate connection between VMSMs with TBI and

their rehabilitation nurses. These interventions may include educational programs covering such topics as communication techniques, motivational interviewing and cultural understanding. Emphasis on interventions that improve well-being, community reintegration, and quality of life will help to not only improve VMSM SIR outcomes but engage nurses in the full spectrum of their influence on individual lives.

CONCLUSION

Traumatic brain injury is a life altering event. Contrary to some opinion, this alteration does not have to be negative, but can be an opportunity to experience new possibilities, and connect with oneself and others. Rehabilitation providers play a pivotal role in creating an environment where people with TBI feel safe to explore their new possibilities. Nurses have a unique opportunity to facilitate positive self-identity reconstruction. We have training that gives us a 'whole-person' perspective and excellent communication skills. We are present well beyond the typical work hours for specialty therapies. It is in these times we can take a few minutes engage VMSMs, developing trusting relationships and affording those with TBI opportunity to move beyond tragedy and into their new identity.

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