A CASE STUDY OF OCCUPATIONAL THERAPISTS SERVING MILITARY PERSONNEL: IDENTIFYING THERAPEUTIC APPROACHES TO BE CONSIDERED WHEN ASSESSING THE OCCUPATIONAL PERFORMANCE OF MILITARY SERVICE MEMBERS WITH MILD TRAUMATIC BRAIN INJURY.

by

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The purpose of this study was to explore the means by which occupational therapists experienced in assessing the occupational performance of military service members (MSMs) with mild traumatic brain injury (mTBI) utilize available assessment tools and techniques to conduct assessments with regards to the uniqueness of military culture.

Qualitative data was collected through face-to-face and phone interviews with three occupational therapists who have experience working with MSMs with mild traumatic brain injury as a primary client base. Written follow up questionnaires were used to gather additional information, as needed, based on responses to semi-structured interview questions developed by the researcher to achieve information saturation. Interviews were recorded and transcribed using LiveScribe technology. Qualitative data analysis was conducted through review of interview transcriptions, which led to the development of seven notable themes including: Understanding Military Culture, Understanding Authority, The MSMs Work Roles, Understanding the Unimaginable, Assessing the Whole Person, Assessment Tools and Techniques, and Treating the Whole Person.

Findings indicate there is a general consensus among participants that assessments currently available can be used to address occupational performance of military service members with mild traumatic brain injury; however, the approach used to carry out such assessments must address the uniqueness of military culture in order to achieve the greatest effectiveness and sensitivity.

While it is understood within the profession that occupational therapists should be client-centered and culturally sensitive, the extent to which cultural differences should be attended to may be greater when assessing occupational performance of military service members because of the magnitude of unique cultural aspects.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

With approximately three million individuals currently serving in the United States military and more than 2.3 million having been deployed to Iraq and Afghanistan since 2001 (Goodale, Abb, & Moyer, 2012), it is understood that a large number of service members will require medical care and other services including occupational therapy at some point during their lives. Notably, the ratio of deaths to wounded in the military has decreased from 1:1.8 during World War I to 1:7.3 during Operation Iraqi Freedom (Congressional Research Service, 2010). These statistics indicate that there is an increasing proportion of military service member (MSMs) surviving injuries and requiring on-going medical care for injuries including mild traumatic brain injury (mTBI). According the Hoge et al. (2008), "the potential long-term effect of mild traumatic brain injury, or concussion, particularly from blast explosions," "is an important medical concern of the Iraq war" (p. 453). Additional statistics show that as many as 10 to 18% of MSMs deployed to Iraq or Afghanistan have sustained a mild traumatic brain injury (Hoge et al, 2008; Radomski et al., 2009). The classification and functional implications of mTBI will be explicated further in Chapter Two of this thesis. While occupational therapy services have long since been provided by military providers, an increasing number of MSMs are seeking care from civilian providers due to provider availability, geographical location, and/or expiration of benefits (Goodale et al., 2012). In fact, "nearly 99% of United States counties have deployed a Reserve Component member in support of Operation Iraqi Freedom, Operation Enduring Freedom, and Operation New Dawn" (Goodale et al., 2012). For these reasons, civilian providers are faced with assessing and treating MSMs despite the fact that they have little to no understanding of military culture and how it affects the lives of these individuals. In order for MSMs to receive the best possible care, "First it is essential that the worldview, the

mindset, and the historical perspective of life in the military [be] understood" (Hall, 2010, p. 4); however, more often than not, this is not the case. As aforementioned, civilian occupational therapists are being asked to provide care to MSMs without the provision of additional education or resources that enable them to properly assess such individuals with regards to their military experience and unique cultural associations. Substantial research that identifies the differences between assessing the occupational performance of individuals within the general population (i.e. civilians) and individuals who identify as MSMs has yet to be conducted. As a profession, occupational therapy emphasizes the individualized approach in working with clients (Johnston & Smith, 2009); however, without adequate experience with a specific culture, therapists cannot be expected to account for the uniqueness of such.

There are a number of assessment tools available to occupational therapists who seek to assess the occupational performance of their clients; however, the purpose of this study is based upon the assessment of occupational performance of MSMs with mTBI in particular. In an effort to develop interview questions grounded in true assessments available and utilized by civilian and military occupational therapists alike, the researcher chose to use the Canadian Occupational Performance Measure (COPM) as a basis. The COPM, explored in Chapter Two of this thesis, is supported as a valid and reliable tool used to measure occupational performance, which is why it was chosen for inclusion in this study. It is noted, however, that the areas addressed by this measure are not specific to MSMs and a literature search for any military-specific assessment tools for occupational performance proves unproductive. Given this lack of resources, the need for additional studies to be conducted on this subject matter is substantial.

Statement of the Purpose

The purpose of this study was to explore the means by which occupational therapists experienced in assessing the occupational performance of MSMs with mild traumatic brain injury (mTBI) utilize available assessment tools and techniques to conduct assessments with regards to the uniqueness of military culture. This purpose was addressed by gathering feedback through semi-structured interviews from three occupational therapists who have experience working with MSMs with mTBI as a primary client base through. The ultimate goal of this thesis is to present useful information to civilian occupational therapists who may encounter MSMs with mTBI and wish to conduct efficacious assessments of occupational performance. A portion of this thesis includes discussion regarding the efficacy and sensitivity of the Canadian Occupational Performance Measure in the assessment of MSMs. This assessment tool was chosen because it is a commonly used assessment tool among occupational therapists assessing mTBI. Inclusion of this aspect was intended to provide a foundation for some of the interview questions rather than to provide a thorough evaluation of the measure itself.

Operational Definitions

Military service member (MSM): any individual who serves or has served in any branch of the United States military.

Occupational performance: actions that are completed to participate in activities of daily life (i.e. self-care, education, work, leisure participation).

Occupational therapy (OT): therapy that encourages engagement in meaningful activities of daily life (i.e. self-care, education, work, leisure participation) despite physical or mental limitations.

Limitations

As anticipated, a small sample size was a limitation in this study. This study was expected to include a minimum of four participants; however, the researcher was met by a number of setbacks during the selection process. During the selection process, the researcher identified a number of individuals who met the essential inclusion criteria and were willing and interested in participating; however, it was soon learned that their employers would require additional protocols that did not fit into the timeline of this study. This finding hindered the process of identifying viable options in the way of participants. Despite this challenge, the researcher was able to identify and follow through with three individuals who would become participants in this study; however, this small sample size remained a limitation. This was further complicated when one participant chose not to complete all aspects of the study due to lack of comprehension and time per participant report, which was an additional limitation. It is noted that due to the qualitative nature of this study and the fact that interview questions were independent of each other to some extent, the researcher was able to include this participant's responses to questions answered in full without infringing on the integrity of this study. While this sample size falls within the qualitative standards of research, it may decrease the generalizability of results. Conversely, the design of the study, with the inclusion of a small sample size, allowed the researcher to collect large amounts of qualitative data given the availability of time that would not otherwise have been afforded.

CHAPTER 2: REVIEW OF THE LITERATURE

Mild Traumatic Brain Injury

According to the Brain Injury Association of America (2011), traumatic brain injury (TBI) is defined as an alteration in brain function, or other evidence of brain pathology caused by an external force that results in a "diminished or altered state of consciousness." Short and long term effects of TBI result in varying levels of temporary and permanent impairments in functioning and adjustment. This type of injury is classified as an acquired brain injury, which indicates that it occurred at some point after birth (Brain Injury Association of America [BIAA], 2011). Acquired brain injury (ABI) has the potential to impact all aspects of one's life including functional performance in activities of daily living (ADLs), instrumental activities of daily living (IADLs), work, education, sleep, leisure participation, and social participation, as well as overall quality of life (Vickery, Gontkovsky, & Caroselli, 2004). The major areas most often affected by TBI are cognition and physical, behavioral, and emotional functioning. Prevalent cognitive issues include impairments in attention, memory, perception, and executive functions. Physical impairments include, but are not limited to, hemiplegia, ataxia, incoordination, and apraxia. Behavioral and emotional impairments commonly exhibited are disinhibition, impulsivity, and an unstable emotional state (Golisz, 2009). While the majority of these symptoms improve within weeks or months after the responsible incident, individuals with mild traumatic brain injury (mTBI) may continue to experience residual effects that correlate with impairments throughout their lives. Mild traumatic brain injury is a classification of TBI that indicates "the severity of the initial physical trauma that caused the injury," rather than the long term outcomes of that injury (BIAA, 2011). As reported in Radomski, Davidson, Voydetich, and Erickson (2009), 10 to 30% of people with mTBI have residual effects that persist for months or years

beyond the initial injury. Some of the symptoms most commonly reported among individuals with residual effects of mTBI include difficulty concentrating, memory deficits, recurrent headaches, dizziness, fatigue, disordered sleep patterns, irritability, depression, and mood instability (Hoge et al., 2008; McCauley, Boake, Levin, Contant, & Song, 2010; Radomki, 2009; Sayer et. al., 2009). Sayer et al., (2009) goes on to explain that co-morbidities, including the aforementioned, significantly affect the individual's "ability to engage in treatments" (p. 712).

While mTBI may be the result of one of many traumatic events such as a fall, vehicle accident, sports-related injury, or work-related injury, combat-related blast events are the most common cause of injury among the military population (Hoge et al., 2008; Radomski et al., 2009; Snell & Halter, 2010). According to one study, an estimated 10 to 15% of MSMs deployed to Iraq or Afghanistan have sustained an mTBI (Radomski et al., 2009). Furthermore, it is noted that "many service members are exposed to multiple blasts, which compound the minimal neuronal damage that may occur with a single blast" (Radomski et al., 2009, p. 647). According to one 2008 study (Hoge et al.) that surveyed 2,525 soldiers following their year long deployment to Iraq, 4.9% of soldiers reported injuries with loss of consciousness and 10.3% reported injuries with altered mental status while an additional 17.2% reported other injuries. The increasing rate of military service members being diagnosed with mTBI may be partially attributed to improved diagnostic capabilities, increased survival rates among injured soldiers, and increased awareness of brain injury symptoms among medical personnel, which leads to more comprehensive evaluations of individuals who are thought to potentially have a brain injury (Hoge et al., 2008; Radomski et al. 2009). Additionally, these advancements have led to an increased availability of treatment options in a variety of settings. The aforementioned study conducted by Hoge et al. also reports that post-traumatic stress disorder (PTSD) was two to four

times as prevalent among MSMs who reported symptoms of mTBI (2008). Although treatment of traumatic brain injury, including mTBI, may be complicated by the presence of co-morbid conditions, such as PTSD or a physical deformity, comprehensive treatment is now available to all military personnel who require medical attention for TBI through the Defense and Veterans Brain Injury Center (DVBIC), which was established to manage the increasing number of cases.

With a growing identity as the "signature injury" of the conflict in Iraq and Afghanistan (Golisz, 2009; Hoge et al., 2008; Sayer et al., 2009; Snell & Halter, 2010), more attention is being drawn to the identification and treatment of individuals with TBI; however, adequate assessment tools and treatment measures are still in the process of being established (Comper, Bisschop, Carnide, & Tricco, 2004; Sayer et al., 2009). Current practice is based primarily on expert opinion (Snell & Halter, 2010). Research is needed to identify and to evaluate the efficacy of both assessment and treatment of mTBI (Dagget, Bakas, & Habermann, 2009; Giles, 1993; Sayer et al., 2009; Snell & Halter, 2010).

Military service members with mTBI may seek assistance from a number of medical professionals including occupational therapists, who "have a large role to play in restoring the health and well-being of our wounded warriors" (American Occupational Therapy Association, 2007) and are "integrated into all aspects of army life and work, from the battlefield to the home front" (Nanof, 2012, p. 6). The role of occupational therapists includes assessment and treatment of mental, cognitive, and physical impairments as they affect the client's ability to participate in life's roles. Some of the most common areas that occupational therapists address with individuals who have mTBI are multi-tasking, sequencing of tasks, safety awareness, judgment, anger management, stress management, lability, communicating, and basic motor functioning (Baum, 2010). While occupational therapists have been educated in addressing these concerns

through formal education, practitioners who are not familiar with military culture and its direct impact on the occupational performance of military service members may not be cognizant of best practices in these circumstances. The need for "guidance to providers on best practices to assess and treat mTBI" is great (Sayer et al., 2009, p. 713) and, "An effective and reliable health care infrastructure and evidence-based treatment and rehabilitation policies must be in place to achieve effective recovery and a return to optimal functioning and productivity" (Institute of Medicine, 2011, p. ix).

Military Culture

According to research, military service members are held to certain standards and have unique cultural values that differ from those experienced in the general population (Campbell & Nobel, 2009; Collins & Kennedy, 2008; Greenberg, Langston, & Gould, 2007; Hall, 2011). Furthermore, they tend to be at an increased risk for exposure to hazardous conditions and/or traumatic events in both work and leisure environments (Greenberg et al., 2007, Radomski et al., 2009). Together, these factors demonstrate the need for attention to mTBI among this population.

Military culture is wrought with many expectations and stigmas that complicate everyday life. For example, many military service members are expected to be responsible, not only for equipment and job tasks, but also for the lives of others at times. While this is occurring, they may also be struggling with self-identity issues as they face deployment or family changes (i.e. being a parent and a military service member), which would impact their occupational performance. Similarly, military service members are often expected to spend extended periods of time away from family and friends and to be willing and able to make significant changes (i.e. move, job change) without question (Campbell & Nobel, 2009). This may create additional

challenges when assessing occupational performance because it means that there is less room for error and they must also be excessively flexible. Additional stressors, such as those associated with deployed environments, mission ambiguity, engagement ambiguity, leadership climate, cultural and situational ambiguity, and combat, are typically found in military settings as well (Campbell & Nobel, 2009). Specific to work, Campbell and Nobel (2009) found that military service members may experience loss of autonomy and control because they are expected to adhere to the strict rules and hierarchical nature of the military. Additional stressors evident in cultures outside the military but typically not to the same degree have to do with time, quality, performance, organization, and supplies/information management. Some examples are extreme precision, inefficient communication, and too-heavy emphasis on discipline (Campbell & Nobel, 2009). Further research is needed to determine best practices when accounting for these aspects of military culture.

Stigmas are also a significant concern in military settings. One study by Greenberg et al. (2007) found that while 38 to 45% of participants indicated (on a questionnaire) that they were interested in receiving help for depression, anxiety, or PTSD, only 23 to 40% actually received care. This is important because these are common co-morbidities associated with mTBI. The study further explained that participants thought their leaders would treat them differently and their peers would lose confidence in them if they sought assistance. Research is needed to explore the effect of stigmas in military culture as they are associated with occupational performance.

It should not be assumed that military culture solely exudes negative impacts on its service members. On the contrary, military service members are also positively affected by their distinctive culture in many ways. Collins and Kennedy (2008) explain that, "patients and

families [of those who have served] often derive a sense of security, comfort, and support from the shared military culture" (p. 996). According to another study, mutual support is almost a constant among comrades in service. Also referred to as the "buddy system", this unique aspect of military culture ensures that everyone always has someone to rely on for both physical and psychological needs that would not otherwise be met (Greenberg et al., 2007, p. 933).

Canadian Occupational Performance Measure

According to *Canadian Occupational Performance Measure* (Law et al., 1998), the purpose of the Canadian Occupational Performance Measure (COPM) assessment tool is to detect self-perceived change in occupational performance issues over time. The COPM is used to identify problem areas in occupational performance, provide a rating of the examinee's priorities in occupational performance, evaluate performance and satisfaction relative to the learned problem areas, and measure changes in the examinee's perception of his/her occupational performance over the course of occupational therapy intervention. This measure has been found to be relevant in a broad range of populations (Law et al., 1998) including brain injury (Dawson et al., 2009; Doig, Fleming, Kuipers, & Cornwell, 2010; Institute of Medicine, 2011; Jenkinson, Ownsworth, & Shum, 2007; Phipps & Richardson, 2007; Trombly, Radomski, Trexel, & Burnett-Smith, 2002). According to Phipps and Richardson (2007), "The COPM process can effectively assist clients with neurological impairments in identifying meaningful occupational performance goals" (p. 333).

The COPM is a standardized test in that specific instructions and methods for administering and scoring the test are to be followed (Law et al., 1998). Individualization of the test is, however, also evident in that subsequent scores are only compared to the individual's previous scores. There are no documented norms because results must be individually

determined. Scoring is based on examinee's responses to the therapist's questions regarding occupational performance in the areas of self-care, productivity and leisure. Through a semi-structured interview process, the examinee is first asked to identify up to five problem areas representative of specific activities (i.e. shaving, operating machinery, riding a bike). Once these problem areas have been identified, the examinee is asked to rate his/her own performance of each activity as well as his/her satisfaction with how these activities are completed. These ratings are based on a ten-point scale (Law et al., 1998).

The COPM is supported as a valid outcome measure in occupational therapy (Law et al., 1998; McColl, Paterson, Davies, Doubt, & Law, 2000). This was first established in a 49 subject pilot study followed by a 256 subject pilot study, which also included 219 occupational therapists from 55 different practice sites. Together, these and additional studies conducted more recently have established the content, criterion, and construct validity of the COPM. The COPM has also become an international standard for measurement in research, practice, and education in occupational therapy supporting its claim to strong validity. Two unpublished studies, whose results were specified in *Canadian Occupational Performance Measure* (1998, p. 26) also supported the reliability of the COPM. In these studies, test-retest reliability scores of 0.79 and 0.75 were found in a study of young children with disabilities while scores of 0.80 and 0.89 were found in the other, both scores of performance and satisfaction respectively. Internal consistency reliability scores of 0.41-0.56 for performance and 0.71 for satisfaction were also found (Law et al., 1998). The Canadian Occupational Performance Measure is a reliable and valid measure of occupation performance that requires no set up and few materials (consisting only of three small placards with the 1-10 rating scale and the scoring sheets). Clear instructions and examples of

use are provided to the therapists in the *Canadian Occupational Performance Measure* publication (Law et al., 1998).

Articles specific to the use of the COPM with clients with traumatic brain injury support the utility of it as an assessment tool in occupational therapy (Jenkinson et al., 2007; Phipps & Richardson, 2007).

CHAPTER 3: METHODS

Design

The purpose of this qualitative study was to identify best practices that occupational therapists working with military service members use to assess the occupational performance of their clients with mTBI. In order to accomplish this task, the researcher carried out a univariate descriptive study consisting of a case study of three occupational therapists, whose primary clients are or were military service members. The researcher conducted at least one semi-structured interview with each participant with a follow-up interview being performed as needed to achieve information saturation. A pre-determined outline by which the researcher asked specific questions that are qualitative in nature, requiring either an open-ended or close-ended response, was followed. More informative questions were developed as appropriate by the researcher as individual interviews progressed. Additional questions were conversational and were developed to further explore relevant topic areas as they arose.

Participants

The participants in this study were selected based on pre-established criterion and convenience sampling. Original essential criterion were (1) having experience providing occupational therapy services to military service members with mTBI and (2) close proximity to the University where the data was to be analyzed, namely, East Carolina University located in Greenville, North Carolina. The second criteria was decidedly eliminated to allow the researcher to reach out to participants who may be willing and able to make significant contributions despite being physically located beyond "close proximity" to the University. This decision was made secondary to complications that prevented those originally interested in participating from doing so. Additional criterion assured that each participant was willing and able to respond to

interview questions via face-to-face, phone, and/or electronic-mail interview(s) and that he/she had command of the English language.

Procedure

Prior to commencement of this study, consent (Appendix A) and data collection forms (Appendices B and C) were developed. All such relevant documents were then submitted with the project proposal to appropriate authorities including the University and Medical Center Institutional Review Board at East Carolina University for approval. Upon approval, potential participants were identified and informal connections were initiated by the researcher. Early communications between potential participants and the researcher included emails and phone calls that described the purpose of this study and the means by which data would be collected (i.e. face-to-face, phone, and/or electronic-mail messages). Once potential participants agreed to participate, informed consent was obtained. Three potential participants, who signed informed consent forms, were ultimately unable to participate secondary to restrictions placed on them by their chain of command. Upon discovery of these restrictions, the researcher expanded the search for participants using a snowball effect and by adjusting criteria to allow individuals to participate regardless of their location. By these means, three individuals were identified as participants. The researcher established necessary relationships with the participants ensuring all parties were aware and supportive of the purpose and course of the study. During this time, recording equipment (i.e. Live Scribe) was acquired and file folders were developed to securely store data which was to be collected. Additionally, the researcher reviewed data collection forms, gained familiarity with interview recording equipment, and prepared for the forthcoming interviews. Preparations also included identifying the exact dates/times and locations where data collection was to take place. Face-to-face and phone interviews with each of the three

participants were scheduled for times convenient to both the researcher and the individual participant. The chosen site for face-to-face interviews was determined to need adequate space and seating for two individuals within a quiet, comfortable environment thus the researcher made reservations to use a location on the College of Allied Health Sciences campus at East Carolina University. During final preparations prior to data collection, the researcher developed data analysis methods to be used during and upon conclusion of the data collection process. These methods were reviewed with the researcher's faculty advisor and modified as deemed appropriate.

Data was collected during recorded, semi-structured interviews between each participant and the researcher. Each of the interviews occurred independently of each other. As previously identified, interviews were outlined with predetermined questions (see Appendix B and Appendix C). In all instances, the researcher read the questions in Part I aloud to the participant while facilitating elaboration on certain topics as needed. In general, questions that were likely to require elaboration were identified in the outline with the term "explain" or "expand." Two of the three participants responded to questions in Part II in the same manner while the third participant chose to respond to Part II via electronic mail due to personal time constraints. The length of individual interviews varied depending on the extent to which each participant elaborated on each topic.

Data collection concluded once information saturation was believed to have been achieved; however, it should be noted that the researcher did not believe information saturation was achieved among the population of occupational therapists serving MSMs with mTBI as a whole. This was a limitation of this study. Despite this limitation, collected data was transcribed, reviewed, and analyzed by the researcher in congruence with the purpose of this

study. Analysis was conducted using qualitative procedures to be explored in Chapter 4. Results were presented at the 2013 North Carolina Occupational Therapy Spring Conference in Greenville, North Carolina.

CHAPTER 4: FINDINGS

Participants in this Study

Participants in this study were chosen in the manner described in the previous Chapter. Each of the three participants was a registered and licensed occupational therapist who was noted to have extensive experience working with MSMs with mTBI. The table below outlines the basic information for each of the participants in this study. Interview transcriptions (Appendix E) provide more detailed descriptions.

Table 1

Participant Data

Participant	Credentials	Years of military/uniformed service-related OT experience	Areas of expertise
L.G.	OTR/L	20+ years active duty-Public Health Service	mTBI/TBI Behavioral health Vision therapy Sleep therapy Driving re-integration
J.O.	OTR/L	3 years active duty-Army 4 years non-active duty-Veterans Affairs & Air Force 4 years active duty-Public Health Service	mTBI/TBI Upper extremity injuries Neuromuscular rehab
A.B.	OTR/L	20 years active duty-Air Force	Neurological injuries: stroke, head injury including mTBI Work hardening Ergonomics Environments Return to work

Data Analysis

While the nature of the questions used during participant interviews played a role in the formation of themes for presentation of data, the actual themes presented in this section were not identified until data analysis was underway. As the process of data analysis ensued, the researcher read interview transcriptions three times, highlighting key words and topics that seemed recurrent or markedly important in readings two and three. Once this process was completed, the researcher compiled a primary list of these key words and topics and grouped those that were similar. Next, the researcher developed a secondary list that identified the aforementioned groupings appropriately. The items on this list were then dissociated to allow the researcher to mix and match items until sensible tertiary groups were formed. These final groupings laid the formation for the development of the themes presented in this section.

Upon completion of the development of themes, the researcher explored each theme further by creating a list of search terms to collect relevant data from interview transcriptions for the presentation of each theme. Search terms included many of the key words and topics from the primary and secondary list described above as well as additional words that seemed likely to produce relevant data. Search terms utilized to collect data for each theme are listed in the opening paragraph of each theme.

Themes

Understanding Military Culture-Missions, Make Up and Morale

Throughout data analysis, the importance of understanding military culture was expressly identified as fundamental to working with MSMs with mTBI. Participants referred to military culture both directly and indirectly during interviews with the researcher. The following search

terms were used to identify relevant data for this theme: culture, cultural, mission, morale, history, and branch.

During interviews, one participant stated, "If I was a civilian [occupational therapist] with no experience or exposure to the Department of Defense, I think it would be important to get an understanding of the culture and the history and also an understanding of what the missions are," and then went on to share some of her related experiences as an occupational therapist working with MSMs, which will be explored further in subsequent sections. Another participant shared similar comments while also drawing attention to the extra emphasis on cultural sensitivity within military environments as compared to civilian environments. This participant recognizes that "it has always been an expectation of occupational therapists to be culturally relevant," but continued to state that, "If you as an occupational therapist do not have an understanding of the military personnel, you can miss a whole gamut of what is going on." This response highlights the importance of understanding military personnel, a large part of military culture, as an occupational therapist working with MSMs.

Participants continued to emphasize the importance of understanding military culture throughout their individual interviews. One participant explained several relevant points that will be identified here. Pairing, "I think coming in and understanding the culture and the history of the military is important particularly when the military is at war and you may not support war, yet you're treating people who have deployed, who have more than likely killed somebody, who have witnessed some horrific events or who may have created some horrific events," with the following statement, "figure out how to add that exposure to culture and also what the military does besides war," it becomes evident that this participant believes understanding military culture in greater depth is important. During this part of the interview, this participant got

notably excited as she discussed the "amazing research" and other things "the Department of Defense may be doing for a happy world, a healthy world, a safe world, in addition to the wartime activity." This participant recognized that many people have biased views of the military and made it clear that these bias' should not hinder the practitioners ability to provide services to these individuals. Rather, occupational therapists should make an effort to better understand military make up, missions, and morale in order to better "appreciate" the military and successfully assess the occupational performance of its service members. One participant also said that it was important "to get an understanding of the culture…and how things work because it's not the same as the civilian sector and it's not the same as my branch of service." In this statement, the participant was referring to the fact that she was in the Department of Defense but, as a member of the Public Health Service, she was not in the "military." This is the second time she referenced the differences among branches within the Department of Defense, which indicates that being aware of these differences is important for an occupational therapist who will be working with these populations.

Understanding Authority-Chain of Command, Uniform Effect, and the Client's Sense of Control

This theme is relevant to this study because it gives practitioners who may find themselves working with MSMs with mTBI some insight into how command and control is conveyed in the military, which may impact how they interact with MSMs as clients. The following search terms were used to find relevant data for this theme: chain of command, command, rank, superior, coach, uniform, control, and order.

All participants agreed that chain of command and the uniform are important aspects of military culture that often affect interactions they have with their clients who are MSMs with

mTBI. These terms in particular were used even when not specifically addressed by the researcher. One participant states, "I hear a lot of 'my command' things related to the Army," whilst explaining what she hears from her clients and how she relates that to their behaviors. This participant also explains that one needs "to get an understanding of…the rank and how things work because it's not the same as the civilian sector and it's not the same as my branch of service." She made it clear through this and related statements that chain of command and rank demonstrably affect MSMs before and amid their recovery from mTBI. A response to the researcher's question regarding attention and concentration among MSMs with mTBI received the following response:

> That is going to be highly important. I think about when soldiers are given verbal orders in a group environment, maybe standing in formation and they're easily distracted for instance and they're having a hard time recalling information that they're supposed to carry out, that can cause some problems regarding their chain of command and expectations. Or, they're trying to work on something and they're constantly being distracted because they work in group like activities, it's not like all these soldiers have private offices.

A second participant echoed the point in the aforementioned quote with a brief yet significant reference to "following orders." Responses also revealed that "loss of control" is a concern among this population. One participant responded to a question about this topic as follows:

> I think its an interesting issue within the military because in many ways you do have loss of control because of the way the chain of command works and you're ordered to do things or told to do things and so there's already a naturally embedded loss of control that you give up when you sign on those papers, but then when there is an injury or something

I think sometimes you feel like there is a potential that they may [feel that loss of control] more so.

This participant went on to explain that an MSM with a mTBI may have multiple comorbidities such as headaches and poor sleep that perpetuates the sense of loss of control, and that being aware of this helps you as a professional to gain a "sense of how they are potentially going to perform in therapy." It was also clarified that situational factors, such as rank, were important to consider as well. This participant explained that she often saw differences between clients who were enlisted versus those who were officers. It was apparent that in many cases, MSMs who were enlisted experienced more of this sense of loss of control. Furthermore, she shared that officers may not only have greater control in their position, but they may also seem to "get away" with more, which can make treatment difficult. "I had to check myself at the door," she said regarding one client she worked with who was disrespectful despite her outranking him. As an occupational therapist, she chose to focus on the client's need rather than her position although she noted that this particular client was probably "like that before [his injury]." It should also be noted that this client was a more moderate to severe brain injury, rather than a mild injury, which is the focus of this study. This excerpt was included to highlight the influence of rank that is present regardless of injury.

Another participant shared his unique perspective on rank and the uniform in regards to treating MSMs who require occupational therapy services. This participant shared that he could see the benefits of approaching clients without the uniform factor. He reported that he saw success in programs that represented the occupational therapist as a "coach" with a greater investment in clients. While not always warranted and likely situational, this unique perspective

showed that the effects of rank, uniform, and the client's sense of control were on the forefront of practitioner's minds.

The MSMs Work Roles-Duties, Priorities, and Self versus Unit

The purpose of including this theme is to bring to light the role of the MSM, which is relevant when assessing the occupational performance of such populations. The following search terms were used to identify related data for this theme: work, duty, duties, priority, priorities, self, unit, team, mission, expectations, and standards. Responses relevant to this theme included references to the general qualities of the role of a MSM as well as the specific expectations of a MSM.

Beginning with the general qualities of the role of a MSM, participants agreed that there are definitely unique demands placed on MSMs in their work roles. One participant explained that the MSM has "complex" work demands because "they have their military requirements and then they have their job that they do." For example, he expands, "I could find that someone could be an effective mechanic for jet engines in terms of being able to use the tools and being able to go through the steps that he needed to do his job, but to do it within the confines of a military role, he was no longer effective." In order to better understand those confines, you have to "have an appreciation of what is required of them [MSMs]," which can be accomplished by looking up that MSM's Air Force Specialty Code (AFSC) or Military Occupational Specialty code (MOS). These resources enable the practitioner to identify detailed job descriptions and requirements for a specific client based on his or her position. Two of the participants explained that they, as occupational therapists, were often responsible for evaluating the MSM's ability to perform job duties as outlined by the AFSC or MOS after brain injury. This can be a challenging task because, as one participant explained, you may come across MSMs who express that they

believe they are capable of returning to work but, "when [they are] run through some of the work tasks, they [are] unable to effectively complete them." From this, it can be ascertained that it is common for MSMs to be burdened by desire versus duty. In some cases, the MSM may be realizing that, "wow I might not ever work again." From the experience of another participant, this is a real concern because he reported that "you [an MSM] were immediately replaced" if you were in a situation where you were unable to perform a vital duty, such as attending.

For MSMs, it was important to know they were "of value to the military or to others." The participant who made this statement also provided the following response:

> The concept has always been strong in OT military medicine for one to keep the validation of the person as you are essential and important to the unit. They're not going to worry about themselves; they're going to worry about the whole unit. You are valuable because you support the guy/gal next to you and that's what keeps the unit strong.

Secondary to the emphasis placed on the unit over the individual, many concerns "go out the window" according to one participant. Such areas as self-esteem, sexual relations, denial, and optimism, among others, are meant to be dealt with "on your own somewhere else" because they are not directly relevant to the "success of the squadron." Complexity increases "when these guys are pulled out of their unit for longer treatment" after an mTBI. Another participant shared that "I have heard that units sometimes…really nail the person about their injuries, you know that '[you're] weak, you got medivaced;'" however, "I've never heard a soldier say about another soldier that they are less than [because they were injured]. I usually hear soldiers perceive that they [themselves] are less than because of their injury" and that, "they feel bad

[because] they got medivaced out of there when 'my battle buddies were in the middle of a fight'…that they weren't there doing their job."

Concerns that do not "go out the window" but rather are of increased importance to the work role of MSMs in light of the unit over self paradigm include attention/concentration, reading/vision, self-care, and executive functioning/problem solving according to participant responses. Attention is highly important because, in addition to the "well of course" reasons, in the military "people's lives [are] depending on it [ability to attend]" as are many "training demands." Another participant rationalized that MSMs work in group environments with additional distractions and that can prove problematic if attention deficits are present after an mTBI. Reading is another area that was identified as highly important. Notably, the participant who made the following points has experience working with MSMs with mTBI in the area of vision therapy. She identifies "the ability to converge the eyes…or reduce the combination" as the specific areas that have been identified as difficulties among clients with brain injury. Furthermore, she asserts that the military is now pushing for clients who have sustained a brain injury to obtain a functional vision exam because, "a lot of their [MSMs] duties require a lot of computer work or paper work" and "Outside of reading, if you're not able to perform [visually], you are going to have a hard time shooting if you're in the front lines."

The area of self-care is another area identified as important to the work role of MSMs. As an MSM, one must adhere to "specific requirements around self-care in order to be presentable," and it would not be acceptable to show up to work without meeting these requirements. Lastly, executive functioning/problem solving is identified here by participants. One response to the importance of executive functioning/problem solving was, "You can't have someone breakdown in this area and the process become ineffective, because it can make a big

difference." This participant went on to say that the United States military is unique because there is the expectation that in addition to following commands, you also have to be able to "problem solve and just keep doing it."

Understanding the Unimaginable-Traumatic Experiences, Moral Conflicts, and Guilt

This was a recurrent theme throughout each of the three interviews conducted by the researcher. The following search terms were used to identify data relevant to this theme: trauma, morale, conflict, guilt, negative, unimaginable, multiple, family, relationship, home, spouse, children, strain, understanding, and support. Responses relevant to this theme can largely be grouped into the areas of experiences and outcomes.

As one participant made evident, when you are working with MSMs with mTBI, you are usually working with "people who have deployed, who have more than likely killed somebody, who have witnessed some horrific events, or who may have created some horrific events." Additionally, despite experiencing such traumatic events, these individuals were expected to "remain operational" reported one participant.

As may be expected, these conditions have the potential to have significant effects on MSMs. One of the most prominent effects, which can be immediate and/or long-lasting, is guilt, according to participants. The following is a sound example of one such situation:

> At one point, I was working with a service member…, he had taken a bullet and it had grazed the side of his neck and his shoulder was injured. When he started to express the guilt that he had for leaving his men behind to fight the battle without him in Iraq, I was shocked for lack of better words. From my assumptions and my view point, if I were to take a guess I would say, 'this guy's got to be glad to be alive, I mean wow, it missed his carotid artery and was on his non-dominant side, this guy's darn lucky, I can see all these

> fantastic things, wow, you're doing awesome,' and he was so focused on, 'my team is now weaker because I'm not there, I've now put them in detriment,' and that was really tearing him up. He couldn't start to fathom about all the great things he had going for him and that was something I had never thought of and never been exposed to….

This sentiment was echoed in another example where an MSM was described as feeling guilty for leaving "his battle buddies [although they] were in the middle of a fight." Similarly, this MSM was medivaced out due to his injury. It can be noted that these examples reinforce the concepts in theme three, specifically, unit versus self.

Another area where guilt is frequently involved is within the area of family relations. While one participant stated that, in his experience, "strained family relations might exist but might not be seen as relevant within military culture" and may not be readily discussed because they have little to do with the MSM being able to do his or her job in an outward sense, another participant shared that she deals with these concerns frequently. In one such instance, she explained a case in which she had a MSM whose wife died while he was deployed. In this case, the MSM really thought his wife was going to be okay so he did not go home. That decision left him with immediate guilt and long-lasting depression, which she knew because she was treating him two years after the incident. Within the subject of strained family relations, one participant reported that she commonly hears about "difficulties [in marriages] that happen while deployed or…afterwards." Additionally, in contrast from the previous example, this participant said that she also has instances where the MSM has suffered an injury and now "requires more assistance for them to safely function." In these cases, the family is faced with the burden of providing this additional support that may not otherwise be available. In other situations, the spouse and/or children are affected by the MSMs "withdraw from normal everyday activity." Secondary to

anxiety, visual disturbances, or vertigo, "a lot of our soldiers…will actually remove themselves from doing outside leisure activities," and will avoid malls, movie theater in public places and situations in which they do not know where their egress is, explained one participant. In other cases, depression is a concern that may or may not be a result of the injury, and may also coincide with lability. Depression, in this participant's experience was sometimes a result of pre-existing life factors or "exposure to a negative event such as the actual blast." Another participant reports that he had more experiences dealing with strained family relations among populations in which the MSM was to be medically-boarded out, or was already veteran status and was going to be spending more time in "civilian life…[where they would have] to deal with these things." In his case, he felt that it was difficult to get honest responses among MSMs who planned to stay in the military because these MSMs were uncertain of how it would affect them as an MSM.

Assessing the Whole Person-Background and Motivation

In addition to the aforementioned, this theme emerged during interviews and has been included to augment the presentation of data for this research. The following search terms were used to identify relevant data for this theme: background, reason, motivation, belief, choice, enlist, and pre-existing. Responses that supported the development of this theme came from responses to specific questions such as, "How important is motivation in assessing MSMs with mTBI?" as well as from discussions that evolved in other contexts along the way.

Responses indicated that participants believed pre-existing dispositions were key to the assessment of MSMs with mTBI. Of these, one is the reason why MSMs join the setvice in the first place. One participant said:

> It's kind of interesting just to have that sensitivity and awareness that this is a different culture and people join the military for a variety of reasons, perhaps to get away from their problems, or their love for the County, or maybe it's what you do in your family or where you're from. You know, 'I'm from American Samoa, a lot of us join the military or play professional football, it's what the guys do.'

Accompanying that is the assortment of pre-existing characteristics that each MSM has prior joining the service. Some responses submitted that there was a difference between these and those that were an effect of a mTBI. For example, "We certainly have a number of soldiers who come in that are depressed and they are more labile for sure, maybe not related to their injury at all, maybe related to pre-existing factors or maybe related to an exposure to a negative event such as the actual blast." This participant goes on to explain how "complicated" it is to ascertain to origin of symptoms and notes that "this is a conversation we have in our clinic" and one that "comes up in the annual conference every year." Although "we can't say definitively one way or the other, we can look at them and say, 'well there is a high chance that if we're able to work with the person and improve these things…, these other life factors and areas of concern are going to get better.'"

Additional factors identified by participants as potentially present, but pre-existing and not necessarily related to the MSMs mTBI, are irritability, impatience, egocentrism, and lowered self-esteem. It should be noted that these particular factors were identified after the participants were presented with the list of areas of concerns (see Appendix B) as part of the interview. Other factors identified (not specifically listed by the researcher during the interview process) include tobacco use and environmental exposures, resilience, wellness, and personal habits such

as sleep, exercise, and diet. Whether caused by the mTBI or not, participants asserted these factors were important and must be considered when assessing MSMs.

The second part of this theme, motivation, was explored by two of the three participants. One said, "This [motivation] is very important in our population, it's all over the place." She goes on to discuss how what she sees is a broad spectrum and while some are motivated and willing to do anything to "get rid of this thing [brain injury]" others will say "everything you want to hear" but do nothing. Another participant stated that, in his experience, MSMs are afraid to be judged for their weakness and "never wanted anyone to question [his/her] motivation…that's where you hear 'Ohhrah.'" This participant also maintained that many MSMs "are not apt to share this [problems associated with aforementioned factors] with you" secondary to not wanting to be judged.

Assessment Tools and Techniques

This particular theme was established based on responses the participants provided for assessment-based questions during the interview process. It was noted the majority of this section is comprised of these specific responses; however, some additional data were found through the standard search as aforementioned in the data analysis section. The following search terms were used to identify relevant data: assess/assessment, evaluation, resource, COPM, standardized, individualized, therapeutic, approach, objective, subjective, question, generalize, and team.

During the interview process, participants were asked to describe assessment tools and therapeutic approaches they used as a means to assess the occupational performance of MSMs with mTBI. This section will explore participants' responses to these inquires. Specific assessment/evaluation tools identified by participants included The Disabilities of the Arm,

Shoulder and Hand Outcome Measure (DASH), the Neuro Quality of Life Measures, Trails A and B, the Perdue Pegboard test, and internal cognitive Mini Mental Tests. Additionally, participants reported they used unspecified cognitive evaluations, pre-surveys, self-reporting measures, objective biofeedback information, work hardening assessment processes under Leonard Matthews' guides and protocols, and independent, site-specific assessment tools that were developed to assess the MSMs in terms of their military work requirements (i.e. AFSC).

When asked to expand upon the effectiveness of these assessments, responses were varied. One participant reported that self-report measures were most effective for cognitive evaluations and objective testing is not preferred. This participant found pre-surveys most effective in group setting and the Neuro Quality of Life Measures "pretty good" in individualized settings. When objective measures were used (i.e. biofeedback equipment during "relaxation training to improve sleep or driving or to reduce headaches"), this participate reported that supplemental subjective questions were always used (i.e. "What is your current goal as it relates to improving your sleep?"). Assessments using the "same process" as the COPM were also utilized by this participant and will be discussed as that topic approaches.

A second participant, who reported using work hardening assessments, site-specific assessments regarding work requirements for the MSM, internal cognitive mini mental tests, Trails A and B, and the Perdue Pegboard test, said that while these standardized evaluations may be effective within the moderate to severe TBI populations, they were not particularly effective in the mild TBI population because you "didn't see as many problems." He explained that the sensitivity of the tools available to him were "poor" regarding sensitivity to MSMs because of "the complexity of the work demands of MSMs" and that, "You needed to have an appreciation for who it was that you were evaluating." While MSMs with moderate to severe TBI may get

"snagged" on these standardized assessments, the MSMs with mTBI may appear to be able to do the job when it was broken down into steps but "within the confines of the military role" that person is "no longer effective." This participant said that "in order to get a real evaluation," "I had to understand those needs of the military demands" because "the instruments wouldn't do that." This participant also referred to using an assessment tool "similar" to the COPM, which will be described in that section below.

A topic not specified through interview questions that became evidently important was the effect of the "team" on the assessment process of MSMs. Two of the three participants explained that the assessment process they used was partially dependent on the other practitioners (i.e. speech language pathologist, physical therapists, social workers, neurologists/neuropsychologists) at their respective clinics. One participant reported that "you have to look at the practical responsibilities depending on the other practitioners you work with." In many cases, the participants reported, the neuropsychologist or speech language pathologist would assess the subjective cognitive testing because it was the practical decision although "it is understood that as a profession (occupational therapy), we address cognition in a different manner."

After participants had the opportunity to explain the assessment tools and techniques they used to assess MSMs with mTBI, the researcher asked for additional input regarding use of the Canadian Occupational Performance Measure as an assessment tool for MSMs with mTBI. Given this question, one participant responded that he did not use the COPM at his location due to "lack of education [specific to the use of the COPM]" while the remaining two participants explained they both used an informal variation of the COPM. In one case, the participant explained that she reviewed the COPM when she first arrived at the clinic she currently works at

and she began to use it "pretty close" to the way the manual outlines it in terms of performance and satisfaction pre-test and post-test without using the official scoring piece. In this manner, this participant stated that the COPM is sensitive to MSMs "in terms of being able to monitor their subjective opinion of change over time;" however, it is overgeneralized to the civilian community in the areas it addresses including self-care, productivity, and leisure. She explained that MSMs have "specific requirements around self-care [for example] in order to be presentable" and that this tool is not sensitive enough to address these aspects of occupational performance as is. In order to account for this, one technique may include using the "COPM strategy" as a guide but modifying each area to the needs of the MSM. This participant also identified motivation and readiness to change as important aspects to consider when conducting assessments. She recognized that the COPM "helps get towards motivation and readiness to change to an extent," but that it "could be stronger." Additionally, as mentioned in previous sections, this participant reported that self-efficacy is also key and including a component that identifies, "How ready are you to actually tackle this and do something about it," would "improve this tool."

A second participant, who also reported using an informal process similar to the COPM, reported that "the COPM is designed correctly" and is a useful tool in that it keeps "the focus on what you really need to work on in terms of treatment intervention;" however, as a therapist, "you have to understand and know when to keep probing" to obtain adequate information. He reports that, "Some individuals with mTBI don't know that that's a problem," so one has to be more specific in their assessment rather than using the three aforementioned categories alone. "I think the COPM is only as effective as the person administering it," this participant explained,

"It's an excellent tool in terms of looking at occupational performance, but it can be very ineffective if you fail to ask the right questions." At another time, this participant expanded:

> Since it is a self-reported assessment tool, you might have to verify…a deficit. The COPM by itself doesn't assess it [a skill]…so sometimes you have to use another assessment. So, it's an excellent tool to help you identify areas of concern, but you don't know for sure what the problem is other than the person's sense of what it does to their occupational performance.

Regarding the performance and satisfaction components of the COPM, this participant said that, while "the sense of performance and satisfaction is key with the COPM." He notes that "I think there's a group of people, and you find this within the military pretty strong, who are never satisfied with their performance capabilities." They are "highly critical of their satisfaction and performance capabilities [i.e. 'I could always run faster'], so the COPM can really set those baselines for you."

When asked to expand upon strategies and techniques used to assess the occupational performance of MSMs more thoroughly, the following responses were given. One participant explained that it is "very important to gain that rapport and to find out why they [the MSM] really thought they were here [in occupational therapy]" because of the fear some MSMs may have about losing their job if they say the wrong thing. This participant said that this differs from the general population in that you could just ask, "What are your needs or problem areas," and "they were much more willing to start to talk about that." When assessing MSMs, if "you don't have an understanding of the military personnel, you can miss a whole gamut of what is going on." Given the opportunity to add additional suggestion regarding topics discussed in this research, this participant went on to say that, "you [as a practitioner] really have to step outside

of yourself and be willing to know that person and the importance to them [your client]" when assessing occupational performance.

Treating the Whole Person-Behavior, Emotions, and Resiliency

Treating the whole person became a common theme during participant interviews. Much of the participants' attention to this theme was focused on emotional components and the MSM's level of resilience or lack there of. The following search terms were used to identify relevant data for this theme: behavior, emotion, resiliency/resilient/resilience, fear, fail, success, self-efficacy, adjustment, return, and desire.

Before addressing the resilience factor, this section explores other emotional components and related factors discussed by participants during interviews. As one participant explained her role as an occupational therapist working with MSMs, she declared, "I'm very in tuned with the behavioral, emotional, [and] environmental factors of the individuals [MSMs] and I feel like if we don't work with that then we're missing half of that person." This participant also said some MSMs "may not have the skills or capability to work through what they experienced or what they saw," thus it was important for the practitioner to address these factors and the patient's increased emotional sensitivity in addition to the outward factors such as headaches and disrupted sleep. Additionally, she warned practitioners of the need to watch for depression and related emotions when the MSM's awareness of their impairments starts to improve. She reinforced her stance on this when she went on to say that emotional regulation and management of stress and anxiety are important factors to be included in assessments as discussed in the previous theme.

A factor newly addressed within this theme is resilience. "For a uniformed individual, [resilience] is a high area of concern." One participant explained, "Guys [MSMs] we typically

get are resilient;" however, she explains, while one soldier's life might "fall apart" after an injury, "a different soldier could've experienced the same event, but has higher resilience and they're not having any problems." This participant went on to say resilience is a pre-existing factor common to this population that keeps some individuals from "knocking on your door" by improving their ability to recover from negative events, which other individuals may not be able to do because they have "pre-existing poor life strategies." A second participant agreed, "I think there is a percentage of people in which that's in their nature to be hesitant to push forward." At this point, the focus weighs more heavily on the MSM returning to duty/returning to work. Participants agree that "understanding the desire of the person to want to return to work" is vital. In two of the three interviews, stories were told about MSMs whose desire to return to duty and ability to return to duty were incongruent or whose desire to return to duty was more of a "statement of duty" as opposed to a "real desire." In either case, it is important for the practitioner to have an awareness of each MSMs situation in this regard. One participant reported:

> I've watched some individuals relieved when they were told that they weren't expected to go back to duty and I've seen those that are very saddened by that. I think that once you are told that you are returning to duty or that you are not returning to duty, in both instances, you should continue therapy for the individual.

While the needs of the individual may differ depending on the expected outcome, this statement asserts that therapy services should be continued. An additional consideration is that during the assessment process, it is important to take into account the MSMs self-efficacy although "sometimes that was realistic and sometimes it wasn't." One participant reported that sometimes

MSMs would have the drive to return to duty, thus, they would report they were capable when in fact, further testing showed that they were unable to effectively complete work tasks.

Review of Findings

Throughout the data analysis process, seven distinct but essential themes were identified, as aforementioned. These themes included: (1) "Understanding Military Culture-Missions, Make up, and Morale;" (2) "Understanding Authority-Chain of Command, Uniform Effect, and the Client's Sense of Control;" (3) "The MSMs Work Roles-Duties, Priorities, and Self versus Unit;" (4) "Understanding the Unimaginable-Traumatic Experiences, Moral Conflicts and Guilt;" (5) "Assessing the Whole Person-Background and Motivation;" (6) "Assessment Tools and Techniques;" and (7) "Treating the Whole Person-Behavior, Emotions, and Resiliency." Each of these themes, which were recurrent throughout the participant interviews, is relevant to the purpose of this study as will be discussed in the next chapter.

CHAPTER 5: DISCUSSION

A review of the literature indicates that providing services to MSMs with mTBI is a critical role for occupational therapists at present and it will continue to be for years to come given the increasing number of MSMs being diagnosed with mTBI. Occupational therapists have the potential to make a significant impact in the lives of these MSMs; however, in order to do so, therapists must have the tools they need to tailor their services to meet the unique occupational needs of this valuable population. Snell and Halter (2010) report that "Most guidelines related to the treatment of mTBI consist of expert opinion" (p. 27), and findings from this study are consistent with that statement. Participants in this study agree that the military indeed has a unique culture and that occupational therapists who intend to work with MSMs should familiarize themselves with military culture and related topic areas as will be discussed below.

Findings associated with the first theme, "Understanding Military Culture-Missions, Make up, and Morale," were both congruent with the literature findings and relevant to the purpose of the study. The most prominent point made in this section was, military culture is indeed unique, thus, when assessing the occupational performance of MSMs, practitioners should make a point to educate themselves in an effort to be both client-centered and culturally sensitive. Participants identified the history and missions of the military, not limited to wartime operations, and the make-up of military personnel as important components of military culture to be explored by occupational therapists who will potentially be working with MSMs with mTBI. These areas can be further explored in a variety of ways including through a thorough review of the literature and online resources referenced in this thesis as well as through discussion with individuals who have first-hand knowledge of such topics including MSMs one may come in

contact with in the community or professionals who are experienced in working with MSMs. While exploring areas specific to assessing the occupational performance of MSMs with mTBI, likely through a review of the literature or speaking directly with other occupational therapists who have worked with these individuals, would be the most beneficial, one would also benefit from more generalized explorations as well. Other opportunities for exploring military culture include direct observation of practitioners working with MSMs and attending local presentations or conferences presenting related topics.

Findings in the second theme, "Understanding Authority-Chain of Command, Uniform Effect, and the Client's Sense of Control," are similar to those in the previous theme in that they support the ongoing assertion that it is important for practitioners to familiarize themselves with all aspects of military culture in order to efficaciously assess the occupational performance of MSMs with mTBI. Additionally, the findings within this theme can be useful in providing civilian occupational therapists who intend to work with MSMs with mTBI some insight into how the role of authority affects MSMs. Responses in this section indicate that authority and rank is engrained in the MSMs mindset thus, whether the occupational therapist is a ranked individual or not, it would be beneficial to have an awareness of rank structure which, notably, differs between military branches (i.e. Army, Air Force). It would also be beneficial, according to findings, for practitioners to understand the inherent "loss of control" that MSMs experience. Interestingly, soldiers who sustain mTBI are more likely to be "junior in rank," (Hoge et al., 2008) thus they would be at greater risk for feeling that intrinsic loss of control. As described in the findings section, all MSMs seem to have some sense of loss of control simply by joining the military. It is also explained in this section that co-morbidities such as headaches and poor sleep, factors associated with mTBI, complicate the situation by making the MSM feel even less in

control of their own body. To offset these challenges, practitioners working with MSMs should attempt to encourage and empower the individual as they continue to build rapport during the assessment process. In other situations, as a practitioner working with MSMs with mTBI, one may also come across MSMs who, on the opposite end of the spectrum, think that because of their rank, they can do or say as they please. In either of these cases, assessment will be more successful if the practitioner prepares himself/herself by becoming familiar with military culture.

Findings in the third theme, "The MSMs Work Roles-Duties, Priorities, and Self versus Unit," indicate that when assessing the occupational performance of MSMs, the practitioner should be prepared for the individual to focus primarily on his or her work role because of the significance placed on that aspect of the individual's life in military culture. Notably, a 2007 study conducted by Phipps and Richardson, found that the areas of self-care and home management are the primary occupational performance concerns for individuals with TBI in the general population. Conversely, participants in this study reported that for many MSMs, their job is more than what they do; it is who they are and Greenberg et al. (2007) reported that MSMs "need to function at peak efficiency." With the mindset the MSMs job is who they are, the MSM's ability to fulfill their duty as a member of their unit is a priority and this may account for this difference. It also became evident through these interviews that MSMs are less likely to approach the practitioner regarding personal issues, particularly if they intend to remain active duty as opposed to being medically boarded or retired. Given this point of view, as an occupational therapist, one should anticipate a significant investment in building rapport and establishing a relationship with clients who are MSMs in order to gain their trust before effectively delving into additional areas of concern outside of the work role.

The fourth theme, "Understanding the Unimaginable-Traumatic Experiences, Moral Conflicts, and Guilt," presents insight into some of the unique challenges MSMs face including exposure to hazardous and traumatic events, struggling with moral conflicts and difficult decisions, and coping with related feelings of guilt and depression. One point that becomes evident during participant interviews is that MSMs are often placed in situations where they are required to make difficult decisions. For MSMs with mTBI returning from combat, "resumption of …roles may be further complicated by lingering stress from combat experiences" (Kennedy et al., 2007 as reported in Radomski et al., 2009, p. 651).

Findings in the fifth theme, "Assessing the Whole Person-Background and Motivation," indicate that occupational therapists working with MSMs have the difficult task of assessing and treating conditions and circumstances that are often of unknown origin. While some symptoms are caused by mTBI, others are the result of exposure to the negative event itself (i.e. a blast) or secondary to pre-existing conditions. Occupational therapists should attempt to take this into consideration when assessing the occupational performance of MSMs so they know what questions to ask and what topics to explore further. Given the participant responses, occupational therapists must also be sensitive to factors such as motivation and self-esteem. Motivation is identified as a particularly strong component of military life both in this study and in a review of the literature. As an effect of damage to the frontal lobe and prefrontal cortex sustained during a blast related mTBI, however, motivation, a subcomponent of self-awareness, may be impaired (Radomski, 2009). Also important to consider, although more pronounced in the eyes of injured MSMs rather than the population of MSMs as a whole, weakness has a negative connotation in military culture thus when working with MSMs with mTBI, one should be sensitive to this and be prepared to address it during sessions as appropriate.

Given the purpose of this study, the sixth theme, "Assessment Tools and Techniques," offers some of the most informative data found within the interview materials and literature. In this section, participants explained their point of view concerning the use of available assessment tools to assess the occupational performance of MSMs with mTBI. Upon discussion of assessment tools, participants conveyed self-report measures allowed the opportunity to gather significant information. However, data collected in this manner should be analyzed with the understanding that the accuracy of self-report may be decreased even more among MSMs with mTBI because of many of the factors discussed in other sections (i.e. negative connotation associated with weakness and the influence of desire to return to duty as well as possible decreased awareness). Furthermore, according to Montgomery (as cited in Radomski et al., 2009, p. 650), "activities requiring self-awareness, problem solving, and self-control may be more difficulty or problematic."

Participants in this study also reported standardized measures have poor efficacy among MSMs with mTBI because they are not sensitive enough to pick up on the less prominent residual effects that affect these individuals. To account for this problem, participants and literature support the use of well thought out supplementary subjective components to be used in conjunction with available assessment tools. Radomski et al. (2009) recognize there is a lack of evaluation instruments specific to assessing MSMs with mTBI, thus, utilizing a dynamic approach, which includes informal interviews, observing, and manipulating variables during the assessment process, and utilizing self-report tools is suggested. Jenkinson, Ownsworth, and Shum (2007) concluded that while the utility of the COPM is generally supported in brain injury rehabilitation, self-report alone is not sufficient and results should be construed only "in the context of other outcome indicators" (p. 1283).

Furthermore, building rapport and probing in the right direction can provide the occupational therapist with meaningful information. Snell and Halter (2010) reported that a systematic review of 1,055 studies found the only intervention to be effective in treating mTBI was based on communication with patients in "a supportive manner, providing reassurance, and sharing information on the process of recovery and strategies for effectively dealing with symptoms" (p. 27). It is sufficient to say that this is also necessary in the assessment process as findings in this current study are consistent with indications in the aforementioned literature.

To provide functional application of some of these concepts, participants were asked to discuss their experience with the Canadian Occupational Performance Measure as an assessment tool for MSMs with mTBI. Responses to this request were consistent with the general responses discussed above as well. Specifically, the overall consensus was that tools like the COPM are well-developed and provide good subjective information through self-report, however, the design itself is overgeneralized and not sensitive to the mTBI population.

The final theme, "Treating the Whole Person-Behavior, Emotions, and Resiliency," supports the purpose of this study by reinforcing some of the aforementioned concepts that refer to attending to the MSM as a whole person. Notably, the participants agreed that if you neglect to address the MSM's emotional elements, you are missing half the person and your success with assessment and treatment will be poor. Recognizing the MSM's stress, anxiety, and resilience level during the assessment process is integral to developing a meaningful, client-centered intervention plan.

As a final review, the purpose of this study was to explore the means by which occupational therapists, experienced in assessing the occupational performance of military service members with mild traumatic brain injury, utilize available assessment tools and

techniques to conduct assessments with regards to the uniqueness of military culture. Using qualitative methods including semi-structured interviews and surveys analyzed through an extensive review of transcriptions, grouping, and development of themes, the aforementioned findings were discovered. From these findings, one might conclude that assessment tools currently available for use by occupational therapists who intend to assess the occupational performance of MSMs with mTBI are only efficient if the practitioner uses good techniques including building rapport and using supplemental means of gathering information, as needed. Equally important, one might conclude that military culture is indeed unique and multi-faceted, and that familiarizing oneself with military culture can assist the practitioner in the assessment process when MSMs with mTBI are involved. Furthermore, having this understanding of military culture may provide the practitioner with sufficient information to identify tools and techniques sensitive enough to capture the full picture regarding the assessment of the occupational performance of MSMs with mTBI.

Direction for Future Research

Findings in this study indicate that sufficient data to guide occupational therapists as they assess the occupational performance of MSMs with mTBI is not presently available. Furthermore, the limited data that is available, is dispersed throughout various pieces of literature and occupational therapists are using a variety of assessment tools and techniques to perform assessments among this population with regards to occupational performance. Further research is needed to explore the depths of military culture and its effects on MSMs with mTBI so, in the future, materials can be developed to guide occupational therapists in the assessment of clients in this situation. Such materials that would enhance occupational therapy practice include a military-specific assessment tool such as a modified-COPM or a collection of standardized

assessment tools paired with self-report measures and subjective questions that have been found to be effective among MSMs with mTBI and a guidebook that compiles relevant data, assessment tools, and techniques for quick reference by occupational therapists who find themselves working with MSMs with mTBI. Additionally, studies that further examine the process of assessing the occupational performance of MSMs with mTBI or related topics would be beneficial to the field of occupational therapy and the population of MSMs who have served our country. While this study provides some insight into the uniqueness of military culture and the importance of cultural sensitivity when assessing the occupational performance of MSMs with mTBI, additional studies would strengthen these assertions and provide occupational therapy practitioners with the guidance they need to provide the highest quality of care to the individuals they serve who are MSMs with mTBI.

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APPENDIX A: INFORMED CONSENT DOCUMENT

East Carolina University

Informed Consent to Participate in Research

Information to consider before taking part in research that has no more than minimal risk.

Title of Research Study: A Case Study of Occupational Therapists Serving Military Personnel
Principal Investigator: Kelly Pippin
Institution/Department or Division: East Carolina University, Department of Occupational Therapy
Address: ECU College of Allied Health Sciences, Department of Occupational Therapy, Health Sciences Building, Greenville, NC 27834
Telephone #: 744-6199

Researchers at East Carolina University (ECU) study problems in society, health problems, environmental problems, behavior problems and the human condition. Our goal is to try to find ways to improve the lives of you and others. To do this, we need the help of volunteers who are willing to take part in research.

Why is this research being done?
The purpose of this research is to identify the current best practices that occupational therapists who work with military service members use to assess occupational performance. The decision to take part in this research is yours to make. By doing this research, we hope to be able to describe the best practices used by occupational therapists who are experienced in working with military service members in conducting assessments given the uniqueness of military culture and its effects on occupational performance.

Why am I being invited to take part in this research?
You are being invited to take part in this research because of your experience as an occupational therapist working with military service members who have sustained combat-related injuries. If you volunteer to take part in this research, you will be one of two to eight people to do so.

Are there reasons I should not take part in this research?
I understand that I should not volunteer for this study if I am unable to participate in a face-to-face interview with the researcher.

What other choices do I have if I do not take part in this research?
You can choose not to participate.

Where is the research going to take place and how long will it last?
The research will take place via email, phone, and/or face-to-face interviews at a place agreed upon by the researcher and you. The total amount of time you will be asked to volunteer for this study is no more than three times over the next three months. It is expected that the original interview will take approximately 1 hour.

What will I be asked to do?
You are being asked to do the following:

Participate in at least one phone or face-to-face interview with the researcher within the three weeks or respond to interview questions via email communication. After the first interview, you will be given the option to participate in one to two follow-up interviews if you and the researcher agree that there is more information to be discussed.
During this time, you will be asked specific questions regarding how you assess the occupational performance of military service members. Specific topics of discussion will include the uniqueness of military culture, assessing occupational performance in post theater clients who have sustained combat-related injuries such as mild traumatic brain injury, and using the Canadian Occupational Performance Measure to assess occupational performance. You will also be given the opportunity to share any additional information with the researcher that you think is pertinent to the subject being studied. All interviews will be recorder for review by the researcher.

What possible harms or discomforts might I experience if I take part in the research?
It has been determined that the risks associated with this research are no more than what you would experience in everyday life.

What are the possible benefits I may experience from taking part in this research?
Other people who have participated in this type of research have experienced enhancement of their practice as they take this time to reflect upon their work and positive feelings associated with being part of a process that has the potential to improve best practices in their field. By participating in this research study, you may also experience these benefits.

Will I be paid for taking part in this research?
We will not be able to pay you for the time you volunteer while being in this study.

What will it cost me to take part in this research?
It will not cost you any money to be part of the research.

Who will know that I took part in this research and learn personal information about me?
To do this research, ECU and the people and organizations listed below may know that you took part in this research and may see information about you that is normally kept private. With your permission, these people may use your private information to do this research:

- Any agency of the federal, state, or local government that regulates human research. This includes the Department of Health and Human Services (DHHS), the North Carolina Department of Health, and the Office for Human Research Protections.
- The University & Medical Center Institutional Review Board (UMCIRB) and its staff, who have responsibility for overseeing your welfare during this research, and other ECU staff who oversee this research.

How will you keep the information you collect about me secure? How long will you keep it?
Research data will be stored on PirateDrive. Only the previously identified researchers will have access to data via this secure, password protected storage location.

Upon completion of the thesis the data may be used to develop state and national presentations and reviewed for possible case study journal submission. Data retained would stripped of any identifying information and stored on the supervising faculty member's PirateDrive.
Recorded interviews, once transcribed, will be deleted and no longer retained – the transcriptions would be part of the data set stored on the PirateDrive. After a period of no more than 2 years

the data will be deleted from the PirateDrive area and viewed as no longer accessible. This may occur prior to the 2 year time frame, but this will give reasonable time to seek publication. The recording will be conducted using the LiveScribe method that transforms the recordings and notes take into a PDF that can be stored on the pirate drive with ease. Once transferred from the pen to the PDF file the pen recording will be deleted.

To ensure exchange between student and faculty member is protected all files will be converted into zip files and locked with a password protection system which will only be known to the faculty member and the student. Each time the data is un-zipped the remaining data will be deleted from the system where it is being used.

What if I decide I do not want to continue in this research?
If you decide you no longer want to be in this research after it has already started, you may stop at any time. You will not be penalized or criticized for stopping. You will not lose any benefits that you should normally receive.

Who should I contact if I have questions?
The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator at (919) 607-0375.

If you have questions about your rights as someone taking part in research, you may call the Office for Human Research Integrity (OHRI) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of the OHRI, at 252-744-1971

I have decided I want to take part in this research. What should I do now?
The person obtaining informed consent will ask you to read the following and if you agree, you should sign this form:

- I have read (or had read to me) all of the above information.
- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I know that I can stop taking part in this study at any time.
- By signing this informed consent form, I am not giving up any of my rights.
- I have been given a copy of this consent document, and it is mine to keep.

_____ _____

Participant's Name (PRINT) **Signature** **Date**

Person Obtaining Informed Consent: I have conducted the initial informed consent process. I have orally reviewed the contents of the consent document with the person who has signed above, and answered all of the person's questions about the research.

_____

Person Obtaining Consent (PRINT) **Signature** **Date**

APPENDIX B: INTERVIEW QUESTIONNAIRE PART I

A Case Study of Occupational Therapists Serving Military Personnel

The purpose of this study is to identify therapeutic approaches that occupational therapists use to assess the occupational performance of military service members (MSMs) with mild traumatic brain injury (mTBI).

This questionnaire serves as a means to gather information from practicing occupational therapists that can be used to report upon which therapeutic approaches are most useful in assessing the occupational performance of MSMs.

1. What type of practice setting do you work in?
   Please expand.

2. What is your military service status?

3. Does your client population consist primarily of MSMs?
   Yes, No

4. Approximately what percentage of your clients fall into each of the following categories?
   Active Duty, Pending Separation, Medically Boarded Retirees, Other

5. Do you have experience administering the Canadian Occupational Performance Measure (COPM)?
   Yes, No

6. Overall, how useful do you think the COPM is in evaluating clients in the *general population*?
   Not useful, Somewhat useful, Useful, Very useful, No opinion
   Please expand.

7. Overall, how useful do you think the COPM is in evaluating your clients who are *MSMs*?
   Not useful, Somewhat useful, Useful, Very useful, No opinion
   Please expand

8. In your opinion, how sensitive do you think the COPM is in addressing all points necessary to gather a full understanding of the occupational performance among the *general population*?
   Not sensitive, Somewhat sensitive, Sensitive, Very sensitive, No opinion
   Please expand

9. In your opinion, how sensitive do you think the COPM is in addressing all points necessary to gather a full understanding of the occupational performance of *MSMs* with additional regards to the mission of your treatment center?
   Not sensitive, Somewhat sensitive, Sensitive, Very sensitive, No opinion

10. When you use the COPM with MSMs, do you use any specific strategies/techniques?
    Please explain.

11. How effective do you think these strategies/techniques are?
    Not effective, Somewhat effective, Effective, Very effective

12. The following areas have been identified in the Systemic Approach to Cognitive Rehabilitation (Calub, DeBoskey, & Hooker, 1991) as being important to address when assessing MSMs:

    Attention/Concentration
    Visual Memory
    Auditory Memory
    Visual-Spatial Skills
    Sensorimotor Skills
    Executive Functions/Problem Solving
    Impatience/Irritability
    Impulsivity
    Outbursts
    Labiality
    Suspiciousness
    Depression
    Motivation
    Dependency
    Excessive Talking
    Denial/Over-optimism
    Egocentrism
    Lowered Self-Esteem
    Sense of Loss of Control
    Strained Family Relations
    Inappropriate Social Behavior
    Increased Sexual Interest
    Altered Friendships
    Inactivity
    Math
    Reading
    Verbal and Written Expression

    a) Do you agree with this listing? Please explain.

    b) Do you think the COPM and/or other assessment tools you have available can be used to address all of these areas?
       Yes, No
       Please expand.

    c) In your practice, do you use separate evaluation tools to address the areas listed in the previous question? If so, please explain.

13. Do you have any additional suggestions for therapeutic approaches to be utilized when assessing the occupational performance of MSMs with mTBI? Please expand.

14. Would you like to share any other information regarding the COPM or other assessment tools as they are used to assess the occupational performance of MSMs given your clinical experiences? Explain.

Thank you for your participation in this study. Should you have any questions at any time regarding this study, how your responses will be used, or any other topic related to this study, please contact me at your convenience.

Kelly Pippin, OTS
East Carolina University
College of Allied Health Sciences
Department of Occupational Therapy, MSOT

APPENDIX C: INTERVIEW QUESTIONNAIRE PART II

A Case Study of Occupational Therapists Serving Military Personnel

The purpose of this study is to identify therapeutic approaches that occupational therapists use to assess the occupational performance of military service members (MSM) with mild traumatic brain injury (mTBI).

This questionnaire serves as a means to gather information from practicing occupational therapists that can be used to report upon which therapeutic approaches are most useful in assessing the occupational performance of MSMs.

Using the categories outlined below, please (1) identify how important each of these areas are and more specifically, how the importance differs from what is typical among the general population (i.e. how one area, that may be considered trivial to others, may be of utmost importance to a MSM or vice versa and why) and (2) give an example of how this may present in a case. You may describe these as they relate to a MSM in any stage (i.e. active duty, medically boarded retiree, etc.). Please provide answers in as many categories as possible.

I. Attention/Memory

Attention/Concentration
Importance:
_____
_____
Example(s):
_____
_____

Visual Memory
Importance:
_____
_____
Example(s):
_____
_____

Auditory Memory
Importance:
_____
_____
Example(s):
_____
_____

II. Skills/Problem Solving

Visual-Spatial Skills
Importance:
_____
_____
Example(s):
_____
_____

Sensorimotor Skills
Importance:
_____
_____
Example(s):
_____
_____

Executive Functions/Problem Solving
Importance:
_____
_____
Example(s):
_____
_____

III. Mood

Impatience/Irritability
Importance:
_____
_____
Example(s):
_____
_____

Impulsivity
Importance:
_____
_____
Example(s):
_____
_____

Outbursts
Importance:
_____
_____
Example(s):
_____
_____

Labiality
Importance:
_____
_____
Example(s):
_____
_____

IV. Thoughts

Suspiciousness
Importance:
_____
_____
Example(s):
_____
_____

Depression
Importance:
_____
_____
Example(s):
_____
_____

Motivation
Importance:
_____
_____
Example(s):
_____
_____

Dependency
Importance:
_____
_____
Example(s):
_____
_____

V. Point of view

Excessive Talking
Importance:
_____
_____
Example(s):
_____
_____

Denial/Over-optimism
Importance:
_____
_____

Example(s):
_____
_____

Egocentrism
Importance:
_____
_____
Example(s):
_____
_____

Lowered Self-Esteem
Importance:
_____
_____
Example(s):
_____
_____

Sense of Loss of Control
Importance:
_____
_____
Example(s):
_____
_____

VI. Relations

Strained Family Relations
Importance:
_____
_____
Example(s):
_____
_____

Inappropriate Social Behavior
Importance:
_____
_____
Example(s):
_____
_____

Increased Sexual Interest
Importance:
_____
_____
Example(s):
_____
_____

Altered Friendships
Importance:
_____
_____
Example(s):
_____
_____

Inactivity
Importance:
_____
_____
Example(s):
_____
_____

VII. Cognitive Skills

Math
Importance:
_____
_____
Example(s):
_____
_____

Reading
Importance:
_____
_____
Example(s):
_____
_____

Verbal and Written Expression
Importance:
_____
_____
Example(s):
_____
_____

Do you have any additional suggestions for therapeutic approaches to be followed when assessing the occupational performance of MSMs? Please explain.

_____
_____
_____

Would you like to share any other information regarding the topics addressed in this research? Please explain.

_____
_____
_____

Thank you for your participation in this study. Should you have any questions at any time regarding this study, how your responses will be used, or any other topic related to this study, please contact me at your convenience.

Kelly Pippin, OTS
East Carolina University
College of Allied Health Sciences
Department of Occupational Therapy, MSOT

APPENDIX D: IRB NOTIFICATION OF INITIAL APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/irb**

Notification of Initial Approval: Expedited

From:	Social/Behavioral IRB
To:	Kelly Pippin
CC:	Leonard Trujillo
Date:	3/6/2013
Re:	UMCIRB 13-000261 A Case Study of Occupational Therapists Serving Military Personnel

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 3/5/2013 to 3/4/2014. The research study is eligible for review under expedited categories #6 and #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

The approval includes the following items:

Name	Description
Consent form | History	Consent Forms
Interview Outline Part I | History	Interview/Focus Group Scripts/Questions
Interview Outline Part II | History	Interview/Focus Group Scripts/Questions
Thesis Proposal | History	Study Protocol or Grant Application

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX E: INTERVIEW TRANSCRIPTIONS

Note: Transcriptions contained in this thesis were edited to improve readability; however, significant efforts were made to maintain the integrity of the interview proceedings.

Participant: J. O.

Part I

Clinical experience: Current-upper extremity and neuromuscular rehab hand therapist

History: Graduated in 2002 as an OT through Army; three years active duty, off active duty-worked at Veteran's Affairs; Air Force Reserve; returned to active duty four years ago through PHS; 2008 stationed at Womack Army Medical Center in Fort Bragg-three years in traumatic brain injury unit; currently-administration and health technology with two days per week in hand clinic

MSM: 95% clientele

Common diagnoses: Currently-upper extremity injuries; previously-almost exclusively TBI, primarily mTBI, severe TBI only after they receive care at another facility; other main services within military-stress control, upper extremity rehabilitation, TBI, some pediatrics in Navy and Air Force (AF).

Assessments: The DASH Outcome Measure-somewhat effective in assessing occupational performance in MSMs, no difference between populations (military and general/civilian); somewhat sensitive in addressing all points necessary to gather a full understanding of the occupational performance of MSMs, no difference between populations.

COPM: Do not use, "due to lack of education on my part."

Reaction to list of areas of concern: Absolutely (it is comprehensive), especially with the physical areas such as sensation, vision, and coordination.

Do the assessments you use currently address of these areas? It depends on the team you work with and your approach. For example, if I'm the only OT in a clinic and there are 6 Speech Language Pathologists, it is likely that the Speech Language Pathologist will address cognition and I will address things they cannot address because although it is understood that as a profession, we address cognition in a different manner. You have to look at practical responsibilities depending on the other practitioners you work with. In a setting where I, as an OT, was the only rehabilitation resource, I would look specifically at cognition and clearly evaluate each of the aforementioned performance areas but in my clinic, we have 3 neuropsychologists and up to 5 Speech Language Pathologists with only 2 OTs, so we rarely address cognition.

Does the COPM address all of these areas? "The quality of the answers I would give you would be poor because I am not educated on the COPM."

Participant: J. O.

Part II

Note: This participant chose to respond to this section of the interview process via e-mail secondary time constraints. Every effort was made to educate this participant regarding what was expected; however, it can be noted that this participant reports difficulty understanding how to answer questions. Given clarification, this participant chose not to expand upon his answers secondary to time constraints.

Attention/Concentration:

Examples-weapons fire/handling, map navigation, education/training

Visual Memory:

Target acquisition, route clearance

Auditory Memory:

Tracking due outs during briefings, following orders called in field exercises

Visual-Spatial Skills:

Night operations, road marches

Sensorimotor Skills:

Weapons assembly, uniform/clothing maintenance

Executive Functions/Problem Solving:

Unit inventory, troop counseling and annual evaluations, unit budget/funds management

Impatience/Irritability:

Vehicle operations, crowd control

Impulsivity:

Weekend activity choices

Outbursts:

Follow commands, traumatic events and continue to remain operational

Lability:

Holding leadership positions

Participant: L.G.

Part I

Clinical experience: OTR/L; Chief of the Warrior Recovery Center; OT Program/Concussion Specialty Clinic in Fort Carson; Outpatient

History: Active duty in uniformed services; Public Health Service under the Department of Health and Human Services. We do not consider ourselves "military, rather we are "uniformed" and we have the same privileges and ranks. I am detailed to the Department of Defense and I work around soldiers/airmen/seamen on a regular basis. I set up the practice that I am in now. It has some specialty within it, mostly vision therapy, sleep therapy using cognitive behavioral techniques, and driving re-integration therapy along the lines of addressing driving anxieties. I also do cognitive therapy and relaxation therapy through biofeedback. Periodically, I help with life planning and goals or attention deficit which is addressed with cognitive therapy and/or Interactive Metronome training.

MSM: Primary client base is Army, secondary in Air Force. I have also seen a Marine or Navy person once or twice in the past 3 years here. Periodically, we see dependents and retirees. Approximately 90% are active duty, 5% dependent, and 5% retirees. If they are retired, we do not ask about the status of their retirement. We believe that we have one of the highest med board rates around. I have a guy right now that is wanting to fight his med boards to stay in. Knowing their status doesn't change my course of treatment at all. Sometimes, we have to tell a soldier they have to cease driving (i.e. man in 60's with multiple sclerosis) and others times we have to do evaluations to see if they can stay in/demonstrate ability to do their MOS (i.e. job duties). If they are retiring, we try really hard to see what they need before they get out and go under community insurance.

Common Diagnoses: Primarily mild concussions/TBI, periodically moderate to severe; behavioral health disorders; dependent children for vision therapy. Not all diagnoses can be validated. Sometimes there is a report of a concussion several years ago and the provider is not thinking that the symptoms relate to a past concussion. That's not to say he didn't have one, just that his symptoms don't correlate to one. The other common diagnoses include adjustment disorder with anxiety, anxiety disorder not otherwise specified, sleep disturbances, insomnia, memory lapses or loss, headaches-tension, and migraines. Vision gaze convergence palsy is quite common as is reduced denominations. With mTBI, there is good information out there to suggest that there can be changes in convergence resulting from an injury to the head. Under driving, we might see anxiety, cognitive disorders, and possibly functional problems such as multiple sclerosis without a brain injury. We have also had a couple stroke evaluations and other neurological stuff and recently, we had a guy with a brain tumor. Tinnitus, ringing in the ears, is something we see quite a bit. Someone who has tinnitus may have sleep disturbances that interfere with the sleep pattern. You also get hearing loss because of exposure to blasts. With tinnitus and hearing loss, we also get vestibular diagnoses. I don't necessarily work on that but if I'm doing vision therapy and another therapist is doing vestibular rehabilitation, we work really well together. With the exception of stroke and the brain tumor, all of those other diagnoses are commonly seen with the mTBI population and they are fairly common.

Assessments: In our clinic, we have 1 OT, 1 PT, 1 SLP, 1 social worker, and 1 oncologist each with an assistant. I used to do some cognitive evaluations but I only got referrals for non-neurological cognitive complaints so I decided I'm not going to do all this subjective testing since the neuropsychologist has done an extensive amount and the SLP may have too. It didn't make sense. So now, if someone comes into my cognitive group, I only do a pre-survey on them

to get a read on how they feel they're performing, what they know about cognition, what interferes with cognition, and what can improve cognition. I use more self-reporting measures to evaluate change because that's mostly all delivered in a group setting. It used to be individualized and I used the Neuro Quality of Life Measures, which are found online. They're self-reports. That's pretty good on general cognition and executive functioning. I've pretty much gotten away from objective testing with cognition. If I'm doing relaxation training to improve sleep or driving or to reduce headaches, I use biofeedback equipment. That gives me objective measures but then I also go back and do subjective stuff like asking, "What is your current goal as it relates to improving your sleep?"

Effectiveness and Sensitivity of assessments:

COPM: What I did when I got here…the COPM was on my shelf so I took it off and I reviewed it and I watched the video and I used to use those cards in the back with performance and satisfaction and I have to say I don't use it exactly the way the book outlines it but pretty close to it. And on my self-assessments I used a grading scale of zero to ten; zero, you're not able to perform or ten, you're doing extremely well. I find it valuable, but I don't get into that piece where they do the scoring. (Interviewer-So you just more generally look at the improvement from pre and post-test?) Correct. But I just pulled it out and I was looking at it and looking at how they add it up and I thought, oh interesting, maybe I'll look at it again.

Sensitivity with MSMs (as you use it) - I think it is in terms of being able to monitor their subjective opinion of change over time. (Interviewer-Do you think the COPM or that type of interview is sensitive enough to address all the points that you need to understand their occupational performance during evaluations?) Regarding self-care, productivity, and leisure? No, not for military and let me give you an example. So if we're looking under self-care for

instance and number one personal care…soldiers, sailors, airman, they have, we have specific requirements around self-care in order to be presentable and I think these are kind of in some regards overly generalized to the civilian community like can you shave…yes, but can you shave to meet the standards or not? It may be a little over a generalized and I don't see much about the emotional component and the resilience component and for a uniformed individual, that's a high area of concern.

Stategies/Techniques used- I gear it more to the individual, and some of my things are already prescribed based on the reason why they're here. So in my vision survey, I modify the COPM strategy, if you will, under the area of vision.

Reaction to list of areas of concern: Do the assessments you use currently address of these areas?

So on that list that you have there, there are some things that I don't see a lot in our clinic and then there's some things that are missing. The things that are missing are the sleep challenges, not only visual memory but changes in visual performance.

Do you/how do you cover areas not addressed?

I think what we talked about from the beginning, I don't have anything more specific.

Additional input regarding the topics addressed in this research: If I was a civilian with no experience or exposure to the department of defense, I think it would be important to get an understanding of the culture and the history and also an understanding of what the missions are. I'll give you an example, I'm uniformed, been uniformed for over 20 years and I work for the Public Health Services so I can tell you a lot about public health and about our culture and our system, but coming to work for the Army, even when I was in Denver and commuting here twice a month to do volunteer work, I was acutely aware that this culture is different than mine. At

one point, I was working with a service member, an older gentleman, I think he was forty, which is old for a service member, we have a lot of service members in their 20's, he had taken a bullet and it had grazed the side of his neck and his shoulder was injured and when he started to express the guilt that he had for leaving his men behind to fight the battle without him in Iraq, I was shocked for lack of better words. From my assumptions and my view point, if I were to take a guess I would say, this guy's got to be glad to be alive. I mean wow, it missed his carotid artery and was on his non-dominant side. This guy's darn lucky. I can see all these fantastic things… "Wow, you're doing awesome" and he was so focused on, "My team is now weaker because I'm not there. I've now put them in detriment" and that was really tearing him up. He couldn't start to fathom about all the great things he had going for him and that was something I had never thought of and never been exposed to so I think coming in and understanding the culture and the history of the military is important particularly when the military is at war and you may not support war and yet you're treating people who have deployed, who have more than likely killed somebody, who have witnessed some horrific events or who may have created some horrific events and as a civilian the best I can relate it to is maybe if you work in a prison with inmates. You've got some people that have had life experiences that have been very challenging and some things might have been done to them and some things they might have done to others and you're getting an idea of a group that may be similar. They're not inmates by any means but I have had some people that won't talk about what happened because, "What I did was illegal or wrong and I don't know what to do with it." So, in therapy, you're getting to the, "Well let's not get into the nitty gritty but let's talk about some options…have you ever heard of something that helped other people?" Then you get, "Well I've heard about people that have written letters then destroyed them as part of their healing process." It's kind of interesting just to have that

sensitivity and awareness that this is a different culture and people join the military for a variety of reasons. Perhaps to get away from their problems, or their love for the County, or maybe it's what you do in your family or where you're from…you know, I'm from American Samoa, a lot of us join the military or you play professional football, it's what the guys do. So I would say, that's the one thing, if you could figure out how to add that exposure to culture and also what the military does besides war. I learned most recently, because I'm participating in x research that the Army is a huge research command, huge, and they do a lot of amazing research. I had no idea the Army did research…huge research. They've in fact created some of the vaccines you and I get today and I'm like, "The Army did that?" So, just to understand what the different departments of defense may be doing for a happy world, a healthy world, a safe world, in addition to the wartime activity, I think would give people an appreciation for the military that they may not have had prior, or it may expand their appreciation. Then, also to get an understanding of the culture and the rank and how things work because it's not the same as the civilian sector and it's not the same as my branch of service. So, that would be helpful and reiterating, if we were to do anything better, it would be about how do you bring your evaluation out in a real life setting. I know no one's giving the extra staff and time and money to do that. My deployment role is a behavioral health/mental health team so as an OT here, I'm very in tuned with the behavioral, emotional, environmental factors of the individuals and I feel like if we don't work with that then we're missing half of that person. So I've pulled out all stops for one person who was dealing with depression, his wife died while he was deployed, and the guilt he had from not coming back because they really thought she was going to be okay. It was like two years later and my one goal was to get him to a social worker or a psychologist as well to work on him with his areas of hurt and it was like, "Please just come, therapy is optional but not

for you" (kidding), "You've got to come." It was hard because he was such a great guy. I finally had to discharge him because I was like, "I don't know what I'm doing here…what are you doing here?" "I like seeing you", I get that, I like seeing you too but we're not making progress and the reason is that you have something you need to work through that I'm not capable of doing.

Closing-Yeah, so as you can tell, I'm very passionate about my job, I really love it. I'm sure there's better ways for me to do it that I'm not aware of or that I've been fantasizing about but don't have time to implement. I would highly encourage you as a student to check out the Public Health Service and learn about it. It's an amazing branch of service from my perspective and we have a lot of opportunities as OT to serve really unique communities.

Participant: A. B.

Part II

Attention/Concentration:

That's going to be highly important. I think about when soldiers are given verbal orders in a group environment, maybe standing in formation, and they're easily distracted for instance, and they're having a hard time recalling information that they're supposed to carry out. That can cause some problems regarding their chain of command and expectations. Or, they're trying to work on something and they're constantly being distracted because they work in group like activities. It's not like all these soldiers have private offices.

Visual Memory:

I don't get a lot of problems with visual memory, in fact, when I was doing a composite test called the Rivermead, they all did really well on visual memory. Soldiers are really trained on their visual skills so I think it's moderate importance in terms of the population I have seen. I don't see a lot of deficit but I'm just starting to do more visual memory so our neuro-psychologist would probably tell you something completely different.

Auditory Memory:

Highly important. An example would be, particularly, if someone has tinnitus, ringing of the ears, and you're trying to give them verbal instructions, their ability to store that is going to be more challenging and, because of their poor concentration, would interfere with auditory memory. And then of course they have poor sleep.

Visual-Spatial Skills:

I think this is a problem, but it's not an area that I really dive into. Our neuropsychologist brings it up and we're just starting to get into it so I don't really have a sense of it, but I have been told that it is an area of importance.

Sensorimotor Skills:

I can't think of any sensory-motor skills so that's got to be medium to low. It's low in our clinic, I don't know if I've come across it or not.

Executive Functions/Problem Solving:

High importance. It's one of the high areas of complaint. Let me give you an example, being organized is a deficit, remembering where things have been put away is a commonly reported challenge, remembering a list of four or five words. An example…commonly, soldiers will say "Oh I ran out of the house without my hat". Our cover is our hat and you can't show up to formation without your cover. So one of the strategies is to have a common place to keep your keys, your cover, your sunglasses and your PT belt that you would need if you're doing exercise and having them always in the same location each night before you go to bed so when you get up and you're not so bushy tailed, you can just go and grab it and you're going to have improved success. Some of those basic things, the soldiers will complain about and not be able to problem solve. Some of them really need assistance to come up with that idea.

Impatience/Irritability:

I do see some impatience and irritability. It's not necessarily standard to the moderate population we treat. I think it's an important factor but it's a life/situational factor more than a brain injury factor, I'm guessing. I hear a lot of "my command" things related to the Army. "I'm waiting for this and I don't know what's taking so long." Just things that are out of their control but I don't know if prior injury that was part of their behavior. I have a big suspicion that is was

pre-existing because guys that we typically get are resilient, they're fairly low and a different soldier could've experienced the same event but has higher resilience and they're not having any problems but this other person, their life falls apart.

(Interviewer: Do you think that has to do with the fact that they're in a different situation, being in the military and having the chain of command?) No, it's the individuals pre-existing life factors, pre-existing environmental exposures, pre-existing resilience, pre-existing wellness, pre-existing plan of care for themselves, sleep/exercise/eating well. So you take a group of people and you expose them to the exact same event and not all of them are going to come knocking on your door but the ones that have those pre-existing poor life strategies, if you will, are going to have a harder time recovering from that event. They may not have the skills or capability to work through what they experienced or what they saw so when their sleep becomes disrupted, all the sudden their headaches increase and they're more sensitive emotionally because they're sleep deprived and they're not problem solving and they're memory's not good. So it's kind of complicated. A conversation we have in our clinic is, are these symptoms really related to a brain injury or are they really related to the fact that they're smoking, they're not taking care of themselves, they're on an excessive number of medications, their sleep is completely altered, they're having anxiety on a regular basis, they hate their job, they're going through a divorce, you know what are these symptoms related to? And we can't say definitively one way or the other but we can look at them and say, well there is a high chance that if we're able to work with the person and improve these things, improve their sleep, these other life factors and areas of concern are going to get better and so I think this same discussion is going on in all of our clinics. It comes up in the annual conference every year. So, some of these things, impatience and irritability, well I think it's important, I don't know that it's related to a concussion.

Impulsivity:

When it's a frontal lobe injury and clearly a frontal lobe injury, we have seen some impulsivity by and large, I don't see that with the soldiers I work with.

Outbursts:

I don't see that. I see it more with the moderate to severe brain injury.

Lability, Depression

We certainly have a number of soldiers who come in that are depressed and they're more labile for sure, maybe not related to their injury at all, maybe related to pre-existing factors or maybe related to an exposure a negative event such as the actual blast. I had one guy who took a bullet to the head and he was not moderate but interestingly enough, our moderate to severe's often do way better than the mild because they have a clear injury and we work on specific things and they feel really good about their progress and they're off and running going, "This is great!". Some of them don't have those other experiences like insight. Some of them lack that insight and we're like, "You know what, you're not the same…you've had a really good injury to your brain when you went sky diving and your parachute didn't open. You kind of hit your head" and when you have someone with a lack of insight they're like, "I feel fine, I don't know why you say I can't drive". I've had some great experiences with some really mild brain injured where you can really document their injury and they're really high performers, just super high and now they're performing like the average Joe Shmo and let me tell you what a challenge that is to adjust to being like a normal person when you are really excelling. And in that sense, there's a lot of behavioral health therapy that takes place.

Depression I do see, I think that's a high one for sure and that range is definitely for the moderate. If someone has a moderate brain injury and they know they're not performing like

they used to and nobody else around them gets that, they don't feel the same or they don't see that they're performing at a lower level and say, "Yeah, you're doing great", and they say "No I'm not. I'm not as productive. I have a hard time focusing. I get through 80 % of the task and I give up before I complete it" and they're going, "I'm really frustrated and I'm not happy". I also pre-warn, as soon as that insight of that person starts coming up, and they start to realize that, "Whoa, I'm different", we really need to be watching for the depression and for those emotions to come up because it's just very natural to all the sudden realize, "Wow I might not ever work again and I'd always be living with someone", that's happened.

Suspiciousness:

I don't really see it.

Motivation:

This is very important in our population. It's all over the place. I have a guy today, he does everything you give him. He does his homework, he says "I really want to get rid of this thing. I think it's interfering with my life" and then you have the person who tells you everything you want to hear but they're not doing anything. I think motivation is really important and I think the COPM is really nice. I think it kind of helps get towards motivation and readiness to change to an extent but I do wish the COPM did more with readiness for change, measuring that like if you're not satisfied and your performance is low, the importance piece is kind of it but I think it could be stronger.

Dependency:

I don't see that in my clinic so I'll put that as low. I don't have any examples.

Excessive Talking:

It's all over the spectrum. I see more with the moderate/severe than with our mild population to be honest. With the mild population, it's more personality type I think so for me it's not that important unless they're in a group and we need to constantly re-direct.

Denial, Over-Optimism:

I do see that, not so much with the mild, more with the moderate to severe. With moderate to severe, that's really important, like I said, an example…we've had numerous people that think that they have the skills to safely drive and you break out the driving measures one by one and show them their motor performance, their reactionary time, and whatever it might be in their deficit area and you say, "Research shows how this correlates to driving", it's hard for them to get it and sometimes even after an on the road drive evaluation, which we refer out for, they still have a hard time. They say, I did great on my evaluation but not according to the OT that was in the car with you.

Egocentrism:

I don't see that as being really anything affected by the soldier life, I think it's a pre-existing condition. I've really only had one client and he was moderate to severe and he was super egocentric and it drove me nuts. I had to check myself at the door. One day, I had to say to him, you do realize that I outrank you by two ranks and I expect some courtesy. This was after I tried everything else. I had to pull out rank.

(Interviewer: Now, if that was from a brain injury with their work and their life in general being in the military, would that be a problem? As you mentioned, with rank and that type of thing?) I think, from my perception, it's probably catch 22. In my situation, I think he was like that before because he had marital problems and his wife expressed some challenges that he had before his injury. I think they became exacerbated after his injury and he was an officer and I think when

you're an officer within the Army, you can probably get away with egocentrism that you would not be able to do as a specialist, or a private, or a lower sergeant so I think it was kind of situational. Unfortunately. This guy was so egocentrical that he just disregarded me all together. He actually was in Las Vegas, on the bus with a whole bunch of young people and he was hanging out the door and when the bus was in accident, he was slammed forward and he was much older than the people he was partying with so it was interesting.

Lowered Self-Esteem:

This is important but may be pre-existing, not due to a brain injury. You know when you think of the demographics that apply for the uniform, mostly your enlisted, there is a potential that there is a pre-existing low self-esteem there and I think when you get injured it doesn't help. An example is I have heard that units sometimes when someone gets injury really nail the person about their injuries, you know that they're weak, "You got medivaced", but I also think there is a perceptual piece like I've heard soldiers say they feel bad they got medivaced out of there when my battle buddies were in the middle of a fight and the guilt that comes with that, that they weren't there doing their job. I've never heard a soldier say about another soldier that they are less than, I usually hear soldiers perceive that they are less than because of their injury. So I think self-esteem is a really important part and certainly you need to have self-esteem there and that self-efficacy if you're going to be helping someone address their wellness, otherwise its going to get in the way. So I think it's really high and really important.

Sense of Loss of Control:

I think this is important too. I think its an interesting issue within the military because in many ways you do have loss of control because of the way the chain of command works and you're ordered to do things or told to do things and so there's already a naturally embedded loss of

control that you give up when you sign on those papers, but then when there is an injury or something I think sometimes you feel like there is a potential that they may more so because "I can't control my headaches, I can't control my sleep", and I think this perpetuates itself. If you have an idea of someone's sense of loss of control, their self esteem, their denial or optimism, their motivation, their depression, or their dependency, even though I don't really see that on inpatient, you're also going to have an overall sense of how they're potentially going to perform in therapy. So that's getting to that you know if the COPM can get to more self efficacy and more how ready are you to actually tackle this and do something about it like a readiness for change type model, I think that would improve this tool.

Strained Family Relations:

This is very important. I commonly hear about difficulties in marriages. Difficulties that happen while deployed or difficulties that happen afterwards. To give you a more specific example on the completely opposite side of the fence is we have a service member who has a significant injury and they now require more assistance in order for them to safely function. The family is taking on that additional burden because not all of the resources are available for these service members to be able to be taken care of in that larger fashion and it puts a strain on the family.

Inappropriate Social Behavior:

This is important. I hear about that. A perfect example is yesterday in my shifting gears/driving reintegration group this soldier first said to me, I said "You know I can't help but to notice you're watching the clock and you don't look pleased to be here." He says, "I was told I had to be here." "Let me just 'untell' you, therapy is totally optional and if its not an area of concern or an area you want to work on, I'm okay with that, but what I'm just going to ask from you is that you fully participate here with us today, feel us out, feel yourself out, ask yourself after you're

done with group 'Is this a good place for me to be?' or 'No, I'm still on the same page, I don't need to be here.' If you don't need to, I'm totally okay with that and if someday down the line you decide you want to be here, the door is open, no judgment. Come on back." But he really didn't want to be there and after that he started opening up and sharing and participating in the group and he said "If I am on my motorcycle and somebody cuts me off, I speed up to them and I kick their taillight out. Then I go by and flip them off and scream at them and then I speed off." So in that particular group we get a lot of examples of inappropriate social behaviors. I'm just reading his chart and his concussion was 2009-2010 undocumented in the medical record and in theatre, so its questionable, but he's got some anxiety and he's got some issues that need to be address when he is ready to address them but inappropriate social behavior is one of them and I think it's really important to keep in mind that the guys that we're working with and the girls, they have specialty training, so when they're exhibiting inappropriate social behavior, this is a big muscular dude, and I don't know that I want to call you out on that. I think I would just go get my fender or my light fixed. So it's very important, that's an example.

Increased Sexual Interest:

I have not seen that in any client but one individual and he was actually in behavioral health for this. It sounded like it was an ongoing thing that had been a part of his life. What I do see is decreased sexual interest and medications to assist with libido and their most likely linked to some behavioral health stuff that's going on. So I actually have 20 year olds that are prescribed Viagra. So I see the sexual interest goes down and past service members complain about it. One just recently said "It is just really frustrating because I want to be able to please my wife but I have no interest in it and so I know she's interested so I will engage but then I can't have an orgasm and I lose my erection" and then you just get frustrated because of that and he's one of

the few guys we're working with that he's just in so much pain and on so many painkillers. So I would change that from increased to no change in sexual interest or decreased sexual interest.

Altered Friendships:

I don't hear anything about altered friendships.

Inactivity:

This is of high importance. A lot of our soldiers because they are having some anxiety or their having visual disturbances or their having vertigo will actually remove themselves from doing outside leisure activities. They won't go shopping. They won't go to the mall. They don't like to sit in a movie theater in public places, when they do they're scanning. They're watching the environment. They're putting themselves in situations where they know where their egress is. Inactivity I think is highly important because I do see some withdrawal from normal daily activity and that can interfere with them, the spouse or significant other or certainly the family if there is children.

Math:

I don't really hear anything about math. Nothing; although, I do a math test in my biofeedback and I haven't, including myself, found anyone that liked it.

Reading:

This is high importance because there are generally findings around the ability to converge the eyes, bring them together, or reduce the combination. That's the ability to use the muscles or change the autofocus if you will in your eyes. So it can be really difficult and really strenuous and the military right now is doing a strong push that anyone with a brain injury should have a functional vision exam. Not just an acuity check or a health check of their eyes. So that is high importance and that's actually one of our big therapies here. A lot of their duties require a lot of

computer work or paper work or report writing. It's pretty important. Outside of reading, if visually you're not able to perform, you're going to have a hard time shooting if you're in the front lines.

Verbal & Written Expression:

Speech does more around that so I don't know, but we have soldiers that say they stutter, but then I've never hear them stutter the whole session I'm with them. When it comes to written expression I have soldiers that hate writing forms out but they do them for me for vision and it's generally because of their vision. So, I don't see that much.

Areas not identified:

The things that I felt were missing were the visual performance piece, not just reading, being able to see near to far, far to near, and being able to focus. Then, I didn't see anything around sleep. That's a huge area. I'd definitely want to add that and I didn't see much around resilience like how you manage stress or anxiety and emotional regulation in general. Some of that stuff is weaved in there [on the aforementioned list] but it's not clear.

Participant: A. B.

Part I

Clinical experience: OTR/L; NBCOT certified; FAOTA; neurological injuries including stroke, head injury, cognitive disorders from AIDS; Lackland Air Force base both inpatient and outpatient in San Antonio, Texas. (Lackland is the AF center for cognitive rehabilitation so some clients would be flown in from other areas across the country).

History: Retired after 20 years of service as an occupational therapist in the Air Force. Certifications in "work hardening", ergonomics, and environmental settings, return to work, Assessment of Motor Processing and Skills (AMPS evaluations).

MSM: Primary clinic experience, MSM & dependents, primary mission-active duty personnel. Military/Active duty: 80%. Retired or dependent: 20% (most retired were stroke clients).

Diagnoses: Neuro; new ALS diagnoses; MS (dependents); The majority of my experience came from instances where someone would have injury in work setting, usually flight line or during training exercise, then would be seen by a flight surgeon and diagnosed as head trauma. The mTBI diagnosis often came later. My primary role was to evaluate for safety and return to work.

Assessments: I had a series that comes out of the work hardening assessment process, where I wanted to see if they could perform regular work tasks, so a lot of them were motor performance tasks that then had multiple step directions. The assessments fell under Leonard Matthews' guides and protocols. We had our own intake that included looking at the AFSC which is the work requirements for the person and so when we knew what their AFSC was, we could test out to see if they could actually perform some of those same skills. We didn't have a lot of standardized evaluations, I used such things as internal cognitive mini mental tests, trails A and B test, and the Perdue Pegboard test.

Effectiveness and Sensitivity of assessments:

Efficacy with MSMs-We had something similar to the content of the COPM but it was not formalized. We found that very effective because it let us establish the baselines for where the person saw themselves. Sometimes that was realistic and sometimes it wasn't. They would score themselves high that they were capable because of their drive to return to duty and yet when we would run them through some of the work tasks, they were unable to effectively complete them. I think the standardized tests such as the Perdue Pegboard, the Mini Mental, the Trails A and B those were all standardized tests and were effective in at least identifying the difference in mod/severe verses mild TBI. Mild didn't see as many problems. The mod/severe you would see them get snagged as they would have more difficulty.

Efficacy with general population-I found, even within working with dependents, there were differences in the way you had to approach your evaluations. I think the instruments themselves without therapeutic use of self and understanding the best approach to working with the client, it was the big difference. You needed to have an appreciation for who it was that you were evaluating.

Sensitivity with MSMs- I found them poor because of the complexity of the work demands of MSMs because it's not just one job they have. They have their military requirements and then they have their job that they do. For instance, I could find that someone could be an effective mechanic for jet engines in terms of being able to use the tools and being able to go through the steps that he needed to do his job, but to it within the confines of a military role, he was no longer effective. The instruments wouldn't do that, I had to understand those needs of the military demands in order to get a real evaluations. So when you did your final compilation you had to say, "While their qualified as this, they don't have deployment capabilities".

Sensitivity with general population- The tools were designed more for the general population so probably more effective. You didn't have to modify it in order to get the information, it didn't have that dual standard.

Adjustments- I think in both instances, it was understanding the desire of the person to want to return to work. In both instances, I would run across some people who thought they couldn't ever go back to work with their injury. Some civilians or dependents needed their husband or their spouse to understand that they can't work anymore and vise versa for some military people just said they couldn't go back to work. So there was this group of people and we see it in today's fear of falling (individuals who have fallen). There are those with resilience who can't wait to get back and others who become almost fearful of doing anything. So I think there is a percentage of people in which that's in their nature to be hesitant to push forward.

COPM: We did not have the formal COPM but we used the same process. The understanding of an individual's perception of their performance ability as well as then their own perception of satisfaction with it.

Efficacy with MSMs-It was key in keeping the focus on what you really need to work on in terms of treatment intervention as well as returning them to duty.

Efficacy with general population-I think it's kind of like looking at the different kind of jobs and expectations that are there. In reality, I think the COPM is only as effective as the person administering it. If you don't ask the right questions, it becomes ineffective. It's an excellent tool in terms of looking at occupational performance but it can be very ineffective if you fail to ask the right questions.

Sensitivity with MSMs- What I found is that if you take a second and find out what their AFSC was, what their work was, then you had to go look that up, then you had an appreciation for what

was required of them and you could draw more questions from that. For dependent personnel, I had to rely more on what the client said they needed to do for their occupation. I felt I was much more in depth with the military because I could look it up.

Sensitivity with general population-I think the COPM is designed correctly. I think it deals more with provider or the therapist. You have to understand and know when to keep probing. Some individuals with mTBI don't know that that's a problem. It becomes a little scary because, are you turning this into the medical model where you start telling them what the problem is.

Strategies/Techniques used- I think one of the things that was always different was to start off asking, "So why do you think you're here? What happened that you had to come here?" A lot of these guys were medivaced in and all the sudden they're here. They're worried about if they're going to keep their job in the AF and if anything they said would be used against them. So I thought it very important just to gain that rapport and to find out why they really thought they were here. With the general pop you didn't have to worry so much about that, it was just, what are your needs/problem areas and they were much more willing to start to talk about that.

Efficacy of these strategies-I think it's always been an expectation of OTs to be culturally relevant. If you're an OT, no matter who your client is, you have that responsibility to find the most effective way to evaluate them. If you as an OT, don't have an understanding of the military personnel, you can miss a whole gamut of what is going on.

Reaction to list of areas of concern: Strained family relations might exist but might not be seen as relevant within military culture whereas in the general population, that might be addressed much sooner. Then, the area of altered friendships, some things that have to do with relationships with others kind of get…"What does that have to do with me being able to do my job?" Others that would relate back to those social relationships in terms of lability,

impulsiveness, outbursts, suspiciousness, motivation, all of those kinds of behaviors, might be reasons why they were referred to OT, because they were no longer performing or they weren't dealing with people, so they were having outbursts or doing things impulsively. It's not unusual to have someone go through and do a check point questionnaire, "Did you do this, this, this and this" and all you're doing is checkpoints but if someone is suspicious that "You're not trusting of me" when really, we've always done this, this, this, and this, that's the fail-safe checkpoint. But then, when you have the mTBI, that starts becoming, "Oh my gosh, they're checking on me" so then they have these outbursts.

Do the assessments you use currently address of these areas? I think there are definitely gaps in there for most OTs. I'm just thinking, math and reading and written expression, you might be able to find out if someone can do basic math and reading but I don't think most OT's can actually evaluate that. (Interviewer: Do you think that would be important for this population?) Well, that was always a concern of mine, trying to find the right person to assess that so usually I went to a psychologist. I don't think we spend a lot of time talking about sexual interest or not. (Interviewer: Is that something that you think is not addressed or is there not a way to assess that?) It just was never a high priority. It got addressed if it was brought up by the individual.

Does the COPM address all of these areas? I think if you're trying to address all of these using the COPM, since it is self-reported assessment tool, you might have to verify what it is you're seeing that there's a deficit there. The COPM by itself doesn't assess it, it's reportedly a problem so sometimes you have to use another assessment on sensorimotor skill or visual memory. The COPM itself doesn't assess it other than self-reporting. So, it's an excellent tool to help you identify areas of concern but you don't know for sure what problem it is other than

the person's sense of what it does to their occupational performance. From that standpoint, it's really good.

Do you/how do you cover areas not addressed? We just use other standardized test to set some baselines so if someone has identified a problem, you can use a specific assessment tool to find out where they fall within that and then you can come back after treatment and feel if they test out okay but then the sense of performance and satisfaction is key with the COPM. I've always liked that about it. I think there's a group of people and you find this within the military pretty strong, who are never satisfied with their performance capabilities, you could always do better, sense. It's kind of like do my PT better, I could always run faster, improve performance so they may be highly critical of their satisfaction and performance capability. So the COPM can really set those baselines for you.

Additional suggestions-I think this goes with any OT session, it doesn't matter if they're civilian or military, you really have step outside yourself and be willing to know that person and the importance to them. If you don't do that, you'll be making false or inaccurate judgments. I like some of the numbering that goes on with the COPM, if there was a better way of a pre-test/post-test idea of level of improvement, the COPM doesn't really do that.

Suggestions for assessing occupational performance of MSMs-I think part of it is finding out their real desire to return to duty. Is it a real desire or is it a statement of duty. I've watched some individuals relieved when they were told that they weren't expected to go back to duty and I've seen those that are very saddened by that. I think that once you are told that you are returning to duty or that you are not returning to duty, in both instances, you should continue therapy for the individual.

Additional suggestions for therapeutic approaches to be followed when assessing the occupational performance of MSMs:

Well, during this time, I was thinking about a special unit where it wasn't cognitive disorders. These were "the bad boy program", guys they thought were valuable to the military because of their skills but they didn't have the right social skills. The OTs that worked with these guys didn't wear standard uniform, they were more like coaches. A lot of them had alcohol abuse. The relationship with these guys was different, they were 24 hour inpatient and self-reflective. I think there are settings and opportunities for OTs who want to be part of the whole rehab process for individuals beyond an hour session. Those are not as prevalent today but I think if we were using some of those approaches, we would see more success with returning veterans.

Additional input regarding the topics addressed in this research:

I do think the environment and how returning military are approached makes a major difference. The concept has always been strong in OT military medicine for one to keep the validation of the person as you are essential and important to the unit. They're not going to worry about themselves, they're going to worry about the whole unit. You are valuable because you support the guy/gal next to you and that's what keeps the unit strong. When these guys are pulled out of their unit for longer treatment, it challenges them to know are they of value to the military or to others which brings up a whole new complexity when this occurs given that they were taken out of their unit. I think this could be similar in civilian life, when you're out of work, if there aren't other people there to do your job it just isn't getting done.

Participant: A. B.

Part II

Attention/Concentration:

Rated high. I think sometimes, this sounds like "Well of course that's important", but I think of some of the training demands and peoples' lives depending on it. If some one was not focused and not able to attend, another service member would have to step in. If you were performing a duty that required attending and they saw that you were unable to do that, you were immediately replaced.

Visual Memory:

Sometimes, you had very short visual cues to make judgment on and you didn't get second chances. Increased importance.

Auditory Memory:

Same thing, you didn't have things repeated, so high importance. Not only did you hear it, but did you retain it and can you repeat it. Imagine now wearing chem-gear where your voice is muffled through a respiratory system and your ears are covered so what you're hearing is muffled and different so normal cues get really skewed so those skills have to be strong.

Visual-Spatial Skills, Sensorimotor Skills:

Looking at the whole list here (this section), those are more job specific, not necessarily military specific. Would have higher importance depending on job and would be about the same within of outside the military.

Executive Functions/Problem Solving:

You can't have someone breakdown in this area and the process become ineffective, because it can make a big difference. An expectation of difference between our military and other

military's is that other's may do what your told and that's it, in the US military, you problem solve and just keep doing it. Throughout World War II and American Revolution, you weren't supposed to kill military officers and Americans would target officers of British army because the rest of the soldiers would quit fighting if they had no leader but in United States, someone else takes on the role and we keep going. Someone else would take charge, lead, and make decisions. Executive function is key to what makes our military unique in the world.

Impatience/Irritability, Impulsivity, Outbursts, Lability:

These become easily identifiable because if someone has outburst, lability, impulsivity, or isn't working hard, civilians forgive other people and just let it go whereas, as in the first part of the interview I stated that I always ask "So what brought you here?" and in listening to their answers they would say "People just got tired of me getting upset and I couldn't understand what they were asking me to do". Then I could find out what was going on. So, to keep this composure becomes much more critical for the military person. Civilians tolerate it or ignore it but they don't have the same outlook. In the military, you're told, you need to go for an evaluation.

Suspiciousness, Depression, Motivation, Dependency:

I'm not sure on these, again I'm dealing with these categories a little more as a group. I can say that as a military person, we would never show weakness because we were afraid that we would be judged for weakness. You never wanted anyone to question your motivation, that's where you hear "Ohhrah". A lot of these thoughts were suppressed and it just meant that the task/job still got done. MSMs are not apt to share this with you.

Excessive Talking, Denial, Over-Optimism, Egocentrism, Lowered Self-Esteem, Sense of Loss of Control:

I find that most of this stuff goes out the window because it's about the unit, the success of the squadron and it has nothing to do with you. You deal with these things on your own somewhere else.

Strained Family Relations, Inappropriate Social Behavior, Increased Sexual Interest, Altered Friendships, Inactivity:

I don't think you would get an honest response for most of these unless they are going to be boarded out. Knowing they were returning to civilian life, they would want then to deal with these things. So your veterans are going to deal with this. This is foremost why veterans are coming to some see you. Its because they have strained family relations and they have been told weird sexual desires, they don't get along with some guys because they feel threatened, their levels of activity could definitely be a problem because they don't have a job and their previous life was based on purpose and action.

Math, Reading, Verbal & Written Expression:

These need to be evaluated by the OT or someone should be evaluating them. I don't think OTs have enough background to do evaluations in math, reading, and written expressions. I think they can get a general sense of if someone has a problem, but I would probably refer to someone else. Once I know about it for example, with a reading deficit and assistive technology, I can sit down and find ways to help get an automated reading system in there so if they don't have the reading skill, they can hear what is in print. I can show them how to use basic math types of things. I had a mTBI and he just learned to carry around a Franklin speller so he could see words

in the grocery store or other places so he could put the word in then hear it. I don't know that I would be assessing but I certainly would be providing treatment.