



2016

A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury

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A RESOURCE MANUAL TO COLLEGE AND UNIVERSITY ACADEMIC RETURN FOR
YOUNG ADULTS WITH A MILD TRAUMATIC BRAIN INJURY

by

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Master of Occupational Therapy, University of North Dakota, 2015

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A Scholarly Project

Submitted to the Occupational Therapy Department

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

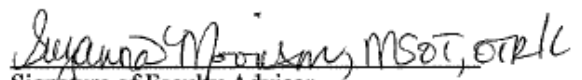
Master of Occupational Therapy

Grand Forks, North Dakota
May 14, 2016

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APPROVAL

This Scholarly Project Paper, submitted by Rachel Gromek and Emily Hermanson in partial fulfillment of the requirement for the Degree of Masters of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.


Signature of Faculty Advisor

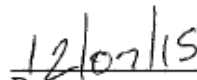

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ACKNOWLEDGEMENTS

The authors wish to thank our advisor, Suzanna Morrison, for providing us with all of her guidance and support, as well as dedicating many hours to the completion of our project. We are truly grateful for her bright spirit and continuous support in and outside of the program. The authors also wish to thank our families as they provided us with continuous support throughout our paths of becoming occupational therapists. Lastly, we wish to thank each and every member of the UND Occupational Therapy Class of 2016. It has been a busy and long journey, but we could not have made it to the end without each one of these individuals.

-Rachel Gromek, MOTS & Emily Hermanson, MOTS

ABSTRACT

Purpose

Reportedly, in the United States 75% of traumatic brain injuries that occur each year are referred to as mild (Centers for Disease Control Prevention, 2010). Traumatic brain injury is the leading cause of disability each year with the highest prevalence being between ages 15-24 years (Willmott, Ponsford, Downing, & Carty, 2014). The greatest deficits experienced by college or university students with a mild traumatic brain injury (mTBI) are cognitive, psychosocial, and physical (Kennedy, Krause, & O'Brien, 2014; Marschark, Richtsmeier, Richardson, Crovitz, & Henry, 2000). The purpose of this project was to address the limited resources available to individuals with the diagnosis of a mTBI as they reintegrate back into the college or university environment.

Methods

An extensive literature review was conducted to understand the most prevalent deficits an individual experiences after sustaining a mTBI. The information obtained from the review of literature was then analyzed with the utilization of the Ecological Model of Human Performance (EHP) (Turpin & Iwama, 2011). The areas of need were identified through the literature review, which found: a lack of accommodation services, cognitive deficits, physical deficits, emotional deficits, and a gap in the delivery of services. In addition, previous intervention strategies used with this population were also noted.

Results

Based on the methodology described above, the researchers developed *A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury* for college or university students who have acquired a mTBI and are returning to the academic environment. Intervention strategies were created based on the EHP model to facilitate their return. The intervention strategies utilize the EHP interventions of; create, prevent, alter/change, adapt/modify, and establish/restore. This resource manual is intended for immediate use upon the return to the academic environment, however, can be referred to throughout the college or university experience.

Conclusion

Several barriers may limit the implementation of this resource manual, such as: the lack of previous implementation, the classification of a mTBI, and the focus solely on academic return. Several areas of strength for this manual include; the variety of resources that are offered for student use, the manual builds upon the most challenging areas for an individual with a mTBI, and the strategies utilized are self-empowering. It is recommended further research be conducted in continuing research based off the needs of this population.

CHAPTER 1

INTRODUCTION

Mild Traumatic Brain Injury (mTBI) is a significant injury that results in powerful deficits impacting an individual's quality of life. This injury is the leading cause of disability in young people each year, and has the highest overall prevalence between the ages of 15 to 24 (Willmott, Ponsford, Downing, & Carty, 2014). Younger adults and college students are frequent survivors of this incident (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). According to the American Congress of Rehabilitation Medicine, a mTBI is defined as a traumatically induced disruption to brain function as manifested by at least one of the following:

Any period of lost consciousness; any loss of memory for events immediately before or after the accident; any alteration in mental status at the time of the accident; and any focal neurological deficit(s) that may or may not be transient (Thomas, 1993, p. 86).

According to the Bureau of Labor Statistics in October of 2014, 68.4% of high school graduates were enrolled in colleges or universities (Bureau of Labor Statistics, 2015, para. 1). This is a common desired post-secondary school goal amongst students graduating from high school. As an increase of students attend college post secondary education, universities are beginning to encounter a greater amount of students in attendance with disabilities. According to the Centers for Disease Control and Prevention (as cited in Trontel, Hall, Ashendorf, O'Connor, 2013), "More individuals are experiencing traumatic brain injury (TBI) than ever before (p. 960, para. 1). Although more of these individuals are attending college, it has been found that there are limited resources to guide these students as they transition into college or university settings. A study conducted by Mealings, Douglas, and Oliver (2012) found that students who suffered a mTBI who returned back to university living often felt an education and social disconnection.

Students in the Mealings, Douglas, and Oliver study reported that they felt a loss of educational and vocational goals upon their injury, and often found it difficult to achieve the same academic standards as their pre-injury self. Armstrong, McPherson, and Nayar (2012) stated that students who experienced a mTBI report memory impairments to be one of the most documented and constant issues faced by these individuals (p. 541). Students who have acquired a mTBI not only report memory impairments, but also impairments in other cognitive areas such as attention, concentration, as well as behavioral and emotional impairments (Wilmott, Ponsford, Downing, & Carty, 2014). Students may feel overwhelmed by the increased academic demands and the emphasis on self-directed learning. Krause and Richards (2014) found that many college students with a TBI feel overwhelmed when studying and have difficulty with organizing and prioritizing. These impairments can have a significant effect on a college student's performance and their possible return to an academic setting following their TBI (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). As students return to postsecondary education, it is advised that they use accommodation services as needed. Accommodation services include extended time on exams, separate testing rooms, scribes, audio recording of textbooks, priority registration, note takers in the classroom setting, short travel distance between classes, and tutoring (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010).

Although accommodations are available to students affected by a mTBI, it was found in a study conducted by Hux, Bush, Zickefoose, Holmberg, Henderson, and Simanek (2010) that accommodations such as note takers and extended testing time was utilized by the participants, however, they noted minimal knowledge about other accommodations available. Glang, Ylvisaker, Stein, Elhardt, Todis, and Tyler (2008) found that as students attend school over the years, the academic tasks and demands become more complex. In a study conducted by

Kennedy, Krause, and Turkstra (2008) more than 80% of the participating students had indicated they faced new challenges post TBI in their schooling, but less than half of the students used the campus disability services, while 20% of the students did not know about the disabilities services available to them. These statistics are concerning in relation to the limited education provided to students and their family members as they prepare to continue toward their individualized goals in their postsecondary education.

There is a large lack of use in accommodation services for students who have experienced a mTBI. This is due to either no awareness of services, limited education of services, or gaps of services available (Glang, Tyler, Pearson, Todis, & Morvant, 2004; Kennedy, Krause, & Turkstra, 2008). Hux, Zickefoose, Henderson, and Simanek (2010) described the importance of teaching students with a traumatic brain injury to implement the skills that promote independence in academics in order to be self-advocates and independent learners. Due to the minimal literature regarding resources as well strategies and tips for students returning to college after a mTBI, a resource guide would be of great assistance for this population.

In order to address the gap and lack of assistance for students who have experienced a mTBI, it is critical to produce an adequate resource guide that will aid these students upon their return to post secondary education. The targeted audience of this resource guide is the college population of individuals who have experienced a mTBI, between 17 and 24 years of age. This guide is geared toward “the typical college age” student because this is a time in their education where they take on the role of becoming a self-directed learner, and experience an increase in independence. Therefore, having a resource guide directed towards their needs is beneficial because they will be able to guide their own learning with appropriate structure provided through

the manual. In addition, this guide serves as a resource for the student's family and support systems. It is informative of the student's disability and provides the family and support systems with a structural process to allow them to be proactive in the students' return to the college or university setting. The resource guide will be split into sections that address the person, task, and environment. Each section will include intervention strategies that use concepts adapted from the Ecology of Human Performance (EHP) model, which include, adapt/modify, create, establish/restore, alter, and prevent. The goal of using these interventions will be to address and influence demands, concerns, as well as the needs of students with mTBI as they return to their post secondary education. The resource guide is intended to assist students to be self-directive in their return to education, which reflects Hux, Zickefoose, Henderson, and Simanek (2010) indication on the importance for students to be self-advocates in their learning. This guide will not only be useful for the student as they return, but also for their family members and social supports as well. As college students with a mTBI use this guide to return to their postsecondary education, it is hopeful that a reduction in dropout rates will decrease. Additionally, as students use this resource guide, it is in hopes that it will promote academic success and increase in self-confidence.

The EHP model will help guide the design of this resource binder. According to Turpin and Iwama (2011), the EHP model emphasizes the environment and its role on an individual's occupation. It looks at the environment within which people act, and how it shapes and is shaped by that action. The four core constructs of the EHP model consist of person, task, context, and human performance (Turpin & Iwama, 2011, p.108). This model describes how an individual is highly influenced by their environment and how these factors influence their behavior as well as performance. Therefore, in addition to the evaluation of physical environment, the social,

temporal, and cultural aspects are evaluated as well. This model fits well with this project as it incorporates five essential interventions that will be addressed throughout our resource manual. Turpin and Iwama (2011) identify these five interventions as establish/restore, alter, adapt, prevent, and create. The purpose of this resource manual is to assist students in returning to post secondary education with optimal functioning and independence following a TBI. Therefore, the interventions used in this product will help students understand their needs as well as clearly communicate what assistance they may require from the university.

The presentation of this guide will reflect the needs, desires, and concerns of students who have acquired a mTBI as they return to their postsecondary education with the emphasis of the EHP model. The contents of this product have been obtained through scholarly literature, including evidence-based research articles and professional textbooks, accredited online traumatic brain injury resources, as well as the credible knowledge obtained by researchers. To begin, an extensive literature review will be in place to present the need and justification of this guide. Previous research will be reflected on and used to address the concerns found in students or participants of previous studies. Each following chapter will then address a specific challenge or concern students may face when they return to their postsecondary education. Each chapter is influenced by components of the EHP model (i.e. person, task, environment) and reflects intervention strategies such as adapt/modify, create, alter, prevent, establish/restore. All of the intervention strategies provided in this manual will take into account student's different learning styles (i.e. visual, auditory, kinesthetic, and read/write). Therefore, this guide demonstrates adaptability in accommodating to the different learning styles of students across college and university campuses.

The profession of occupational therapy is defined as the therapeutic use of daily life activities, defined as occupations, with the purpose of facilitating and enhancing an individual's participation in daily life activities independently to better their quality of life (AOTA, 2014). In order to assist students with engaging in their educational activities, interventions such as accommodations for students will be described in great detail to facilitate the ease of an individual's return to postsecondary education. Resources will also be provided to aid with the use of the interventions outlined in the guide. Other interventions that will be described in this guide include healthy coping skills. These coping skills reflect strategies for stress management, as well as health and wellness such as nutrition, exercise, and interpersonal reflection. The final three chapters of the guide include education, environmental adaptations and modifications, along with family and social supports. Educational areas addressed will include self-directed learning and tutoring accommodations for students as they return to post-secondary education. In order for students to be successful in their return to postsecondary education, users of the guide will be educated about appropriate environmental adaptations and modifications in relation to housing and academic building contexts. Family and social supports will be the final portion of the guide. This portion will be used to discuss the importance of social supports for an individual as they return to their education and may be facing new challenges compared to their academic performance pre-injury.

This resource guide will benefit not only students with a mTBI but also other occupational therapists, health care professionals, and society as a whole. It will serve as a guide for future occupational therapists to structure their interventions and treatment plans off of. This guide may assist other health care professionals in understanding the complexity of what adaptations and accommodations are required for academic success in the college and university

environment. It may also assist with comprehending their role in how to provide client-centered care during the student's transition back to college. This resource manual has the potential to be beneficial to society as a whole, as it continues to encourage and highlight the importance of being a lifelong learner and providing an understanding of how individuals can accommodate their environments in order to do so.

Chapter II encompasses an extensive literature review that entails evidence from past studies that assist with the need for a resource manual that aids in the reintegration of a student with a mTBI into a college/university setting. Chapter III will encompass the methodology and activities used to develop this resource manual. A resource manual for college students with mTBI reintegrating into the college and university setting is described in Chapter IV. The entire resource manual is available in the appendix. Finally, Chapter V is a summary of the resource manual that was developed. This summary includes recommendations for implementation of the resource manual as well as limitations that come with the utilization of this product.

CHAPTER II

LITERATURE REVIEW

Introduction

Mild Traumatic Brain Injury (mTBI) is a complex injury that is defined as a “traumatically induced disruption to brain function as manifested by at least one of the following; any period of lost consciousness; any loss of memory for events immediately before or after the accident; any alteration in mental status at the time of the accident; and any focal neurological deficit(s) that may or may not be transient” (Mild Traumatic Brain Injury Committee, 1993.) A traumatic brain injury (TBI) can be labeled as mild, moderate, and severe, depending on the injury type and symptoms (Dykeman, 2009). According to the Centers for Disease Control and Prevention (CDC) a “mild” traumatic brain injury can be defined as a brief change in mental status or consciousness (Traumatic brain injury in the United States: Fact sheet, 2015). The leading causes of TBI consist of falls (40.5%), motor vehicle traffic (14.3%), struck by/against (15.5%), assaults, (10.7%), and unknown causes (19.0%) (Traumatic brain injury in the United States: Fact sheet, 2015).

The Centers for Disease Control and Prevention report that there are 1.7 million individuals who experience a TBI each year in the United States (As cited in Kennedy & Krause, 2011). Of the injuries that happen each year, about 75% of those are classified as mild cases (Centers for Disease Control Prevention, 2010). Most TBIs that occur each year are classified as mild, and may be referred to as concussions (Center for Disease Control and Prevention, 2015). Erez, Rothschild, Katz, Tuchner, and Hartman-Maeir (2009) suggest that individuals with a mTBI experience the most symptoms in the acute stages following an injury and resolve after a few months. However, there are a handful of individuals who experience cognitive and neurological symptoms for a significant length of time post injury. This was supported by

Binder's (1997) study, which found that 10% to 20% of individuals with a mTBI continue to suffer cognitive effects long after they experienced their injury. TBI is the leading cause of disability in young people each year, and has the highest overall prevalence between 15 to 24 years of age (Willmott, Ponsford, Downing, & Carty, 2014). Young people among college age are the most frequent survivors of a TBI (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). Individuals who have experienced a TBI often exhibit different learning skills than those of the traditional student. These students present a larger spectrum of challenges that interfere with their participation in academic performance, social integration and participation, and their transition into college. According to Armstrong, McPherson, and Nayar (2012), memory impairments have been one of the most documented and constant issues faced by individuals with a TBI. These memory impairments include working, prospective, semantic, and episodic. Common memory and intellectual deficits that contribute to poor academic outcome decrease the chances of an individual pursuing college or university education (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). Specific cognitive symptoms of mTBI include difficulty thinking clearly, feeling slowed down, difficulty concentrating, and difficulty remembering new information (CDC, 2015).

Communication challenges are a further disruption many students face as they re-enter their education. Additionally, individuals with a TBI may suffer from cognitive, behavioral, and/or emotional impairments (Willmott, Ponsford, Downing, & Carty, 2014). Individuals who have acquired a mTBI demonstrate emotional irritability, sadness, nervousness and anxiety; all of which impact their emotional well-being (CDC, 2015). These impairments can have significant effects on a college student's performance and their possible return to an academic setting following their TBI injury (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek,

2010). Hux, Bush, Zickefoose, Holmberg, Henderson, and Simanek (2010) noted there are inherent differences between traditional students without a TBI and students who have acquired a TBI in their ability to pursue higher education after high school. Students who have experienced a TBI have inaccurate expectations after their injury, which may not be evident until they attempt to reintegrate into college. The misperception of their abilities can influence a student's return to school and their ability to master new information as well as apply it in new situations, including social or communication situations (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010).

As students who are affected by TBI transition into school, there are limited services available to facilitate their return. Some accommodations for this population include extended time on exams, separate testing rooms, scribes, audio recording of textbooks, priority registration, notetakers in the classroom setting, short travel distance between classes, and tutoring (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). Although these accommodations are available to all students, these services are not well known to students re-entering the college or university setting post TBI (Kennedy, Krause, & Turkstra, 2008.) In a study conducted by Kennedy, Krause, and Turkstra (2008) more than 80% of the participating students had indicated they faced new challenges post TBI in their schooling. However, less than half of the students with a TBI used campus disability services, and 20% of students did not know about the disabilities services offered. There is a large lack of use of accommodation services for students who have experienced a TBI either due to no awareness of services, limited education of services, or gaps of services.

The researchers of this study are focusing their research on the reintegration of college students ages 17-24 with mild traumatic brain injury (mTBI) back into the college or university

setting. Many students of this population have had to leave college or university settings due their acquired mTBI and have a desire to return to the college or university setting to continue their academics (Glang, Tyler, Pearson, Todis, & Morvant, 2004; Wilmott, Ponsford, Downing, & Carty, 2014). This literature review examines previous research conducted on this population; specifically, looking at the cognitive, psychosocial, and physical effects of mTBI and how these factors play into the role of successful academic performance in the college or university setting. Additionally, previous research examines what accommodations are frequently seen in the academic environment, along with the rationale of why students are or are not accessing these services.

Lack of Literature

There is minimal literature that supports the effects of external factors, such as educational and community agencies on the academic success of students with a TBI (Todis & Glang, 2008.) Although some external factors have been shown to contribute to resilience in the academic setting following a TBI, there is not enough literature to demonstrate how these factors benefit students. Though there has been an increasing awareness of TBI amongst the American public, Krause and Richards (2014) state that there is still minimal information regarding the characteristics of symptoms and services utilized by students returning to college or university education. Kennedy and Krause (2011) also indicate that there are relatively few studies which describe and assess the cognitive, psychosocial, and physical challenges that students with mTBI face as they transition into college. As mentioned previously, TBI can range in rigor from “mild”, meaning a brief change in mental status or consciousness, to “severe”, which indicates an extended period of unconsciousness or amnesia after the injury (CDC, 2015). According to the CDC (2015), the most TBIs that happen each year are indeed classified as “mild”.

Willmott, Ponsford, Downing, and Carty (2014) note that there is a significant difference between studying at the primary and early secondary level versus studying at the later secondary and postsecondary level. Postsecondary level also referred to as a college or university academia, is considered to have less structure, with an increase in expectations of self-directed learning and complex theoretical concepts. Additionally there are even fewer studies regarding the graduation rates of college students with a TBI (D.L. MacLennan & D.C. MacLennan, 2008). The studies that do currently exist regarding college graduation of students with a TBI are not promising and identify only 30% to graduate from a college or university. Although research is limited regarding graduation rates of students with a mTBI, a study conducted by Krause and Richards (2014) suggests that students with mTBI significantly experience more symptoms cognitively, physically, and behaviorally when compared to individuals with a moderate or severe TBI. Although this does not define the graduation rate of students with a mTBI, it proposes that students with this diagnosis tend to suffer significantly in various symptoms which can affect their ability to succeed in a college or university setting.

Student Impairments while in the Educational Setting Due to Cognitive Deficits Following a TBI

As stated by Kennedy, Krause, and Turkstra (2008) few students, prior to the 1970's, returned to or attended college after acquiring a mTBI. This statistic has largely changed with the assistance of the Individuals with Disabilities Education Act (IDEA), which allows students with deficits of all variety to have access and accommodations in their education (Kennedy, Krause, & Turkstra, 2008). With the changes of the Rehabilitation Act of 1973, it has become easier for individuals who have acquired a mTBI to return or continue on to college or university education (Kenney, Krause, & Turkstra, 2008). Not only do students with severe TBI have challenges upon return to college or university education, but students with mTBI also continue to have

challenges that affect and impact their academic performance (Kenney, Krause, & Turkstra, 2008). Common changes in cognitive functioning reported by individuals with a TBI, was trouble with focusing attention and concentration, processing information, and recalling new information (Willmott, Ponsford, & Downing, 2014.) These changes in cognitive functioning may inhibit an individual with a TBI from processing information at the same rate of a non-injured peer, or from retrieving long term memory and previously stored information as quickly. Difficulties with attention and concentration may derive from an individual who is struggling with attentional impairments (D.L. MacLennan & D.C. MacLennan, 2008). These attentional impairments in an academic setting could potentially lead to difficulties with reading, and the ability to concurrently understand lecture material while taking notes. Therefore, the struggle to retain new information becomes increasingly difficult as the students with a mTBI are limited in their ability to transfer information into long-term memory. This can have significant effects on the success of a college student with a mTBI, due to the inability to understand and comprehend information enough to recall it back during an examination. This often results in failure to pass examinations and leads to greater academic struggles and decrease in self-confidence. Trontel, Hall, Ashendorf, and O'Connor (2013) support this as within their study they found that the impact of a diagnosis threat, or being labeled as having several deficits has a large impact on psychological factors that contribute to functioning, specifically self-efficacy within the mTBI population. Participants within the Trontel, Hall, Ashendorf, and O'Connor (2013) study who were labeled with the diagnosis threat perceived they would have greater challenges than those without this label. The researchers indicate that this is highly important for treatment with individuals of the mTBI population as academic self-efficacy is open to change and important to address as an individual's self-perception is a crucial component of treatment for this population.

Similarly, a study conducted by Kenney, Krause, and Turkstra, (2008) used the purpose of documenting academic challenges reported by individuals with a previous TBI. The challenges documented in this study indicated that there was a relationship between physical, cognitive, and psychosocial consequences that an individual experiences after a TBI. The majority of the participants (66-83%) indicated cognitive effects overall impacted their academic performance. The participants of this study reported the highest frequency challenges with making decisions, organizational challenges, and impaired attention. Nearly all participants indicated they needed to review material for longer periods of time compared to when they studied material pre-injury. Over half of the students in this study reported being overwhelmed when studying, ultimately leading to anxiety before exams. Participants also reported difficulty with procrastinating, paying attention in class, challenge understanding assignments, and forgetting the content discussed in class. The participants of the TBI group also reported secondary physical effects such as dizziness, fatigue, headaches, and physical impairments in the upper and lower extremities.

Kennedy, Krause, and O'Brien (2014) supported the challenges these individuals face by stating 57% of students within a TBI population procrastinate, while 37% reported being overwhelmed. On the other hand, only 18% of the control sample of students without TBI reported being overwhelmed. Kennedy, Krause, and O'Brien (2014) used "The College Survey for Students with Brain Injury" to gather information about the challenges that students with TBI face during their education. The demographics of this study consisted of 48 adults with the diagnosis of a TBI, and 55 participants of the control group who do not have the diagnosis of a TBI. Thirteen participants of the TBI group were used to collect demographic information. Of the TBI sub-group, one participant had a single mTBI, while another participant had multiple

mTBIs. Others in in the sub-group had a severe or moderate-to-severe TBI. The results of this study indicate that students with a TBI face a variety of challenges upon returning to college or university education, compared to individuals without a TBI. It is important for students with TBI to have some guidance upon return to college or university education when dealing with additional challenges compared to students without TBI symptoms and impairments.

Physical Implications

Compared to cognitive and psychological impairments, an individual with a mTBI may deal with a burden of additional physical impairments, which impact a student's ability in multiple contexts. Kennedy, Krause, and Turkstra (2008) conducted a study asking participants to participate in an online survey to determine experiences and challenges after acquiring a mTBI. Of the results, physical and medical changes were identified as being new challenges the individuals faced post injury. The physical and medical effects of the participants include fatigue, headaches, difficulty with their legs (movement and coordination), and dizziness. Less than half of the participants reported difficulty coordinating their arms. In a study conducted by Kennedy, Krause, and O'Brien (2014) respondents of a TBI sample reported more overall health effects compared to the control group (individuals without a TBI). While the greater severity of a TBI may result in greater physical effects, individuals with a mTBI experience physical effects as well. Nolin, Villemure, and Heroux (2006), stated that individuals with a mTBI often experience physical challenges such as headaches, muscle stiffness, blurred vision, balance problems, and possible sensitivity to noise and light. Therefore, physical challenges such as dizziness, fatigue, blurred vision, noise and light sensitivity, as well as post-injury headaches are all contributing factors that can potentially impact the return of a mTBI student's performance in academia.

Emotional Distress/Behavioral Effects

A study conducted by Draper, Ponsford, and Schonberger (2007) evaluating the emotions and psychosocial outcomes following a traumatic brain injury discovered that individuals with a TBI often suffered from anxiety, depression, and fatigue. It was found that as college students with a TBI attempt to manage the daily stressors of work, study, leisure, and social participation amongst professional and personal relationships, depression and anxiety is commonly developed over time if support is not provided. Willmott, Ponsford, Downing, and Carty (2014) found that when an individual with a TBI is dealing with feelings of anxiety and depression along with cognitive and behavioral symptoms, they may struggle with adapting to new situations, become inflexible, and tend to be concrete thinkers. Draper, Ponsford, and Schonberger (2007) supported this in their study, which investigated the psychosocial outcome of individuals with various degrees of a traumatic brain injury. The researchers found that 67% of individuals with a mTBI injury experienced significant depression. This study suggests that individuals with a mTBI who are experiencing significant depression, may struggle with the cognitive and psychosocial changes which occur in the college and university setting. Likewise, in the study conducted by Willmott, Ponsford, Downing, and Carty (2014), students with a TBI reported that in order to be successful in the college or university environment following injury, a positive sense of self was critical in having true academic success.

Marschark, Richtsmeier, Richardson, Crovitz, and Henry (2000) also reported long lasting emotional effects for individuals who had experienced, specifically, a mTBI. These effects were seen even up to an average of six years after their injury. Within their study, the primary intent was to investigate if individuals with a history of mTBI in childhood or adolescence continued to show residual deficits in intellectual functioning, approaches to

studying, and emotional stability. Not only were there residual cognitive effects, but also the mTBI participants demonstrated significantly higher levels of emotional distress. Kennedy, Krause, and Turkstra (2008) stated that over three quarters of the participants in their study reported anger and depression effects post mTBI . They also reported general effects of mood swings, alcohol or substance abuse, difficulty with relationships, and challenges maintaining friends and relationships.

The development of long-term relationships/friendships often occurs in the college setting. Cahill, Rotter, Lyons, and Marrone (2014) reported that individuals with a TBI have difficulty developing relationships and being socially engaged. This difficulty may stem from impairments in understanding social contexts and comprehending social cues, along with verbal and nonverbal skills. Students in this study reported that communication with others is difficult as they often struggle with ways to relate well to others, especially those without a disability. According to Callaway, Sloan, and Winkler (2005) this is due to the mTBI student's need for understanding social settings and interactions. These interactions and settings are described as, being able to understand social contexts, sharing and developing similar interests, how to join pre-established friendship groups, as well as state beliefs regarding friendship requirements. Similarly, Kennedy, Krause, and O'Brien (2014) found that 46% of students who experienced a TBI responded that they had fewer friends compared to a control group of students who did not have a TBI. Social supports and communication skills are a necessity for an individual to succeed in the college or university setting, and to later continue onto their post education goals. Individuals who have acquired a mTBI already face challenges with their academics upon return to school, and additionally face social challenges which can impact their quality of life, college or university experience, along with health and well-being.

Accommodations Available

Due to laws required by many colleges and universities, there has been an increased opportunity for individuals with a mTBI to return or attend college or university education (Kennedy, Krause, & Turkstra, 2008). Willmott, Ponsford, Downing, and Carty (2014) found that some students with a TBI were taking the initiative to accommodate their needs upon their return to college or university education by changing their enrollment status from full time to part time student. Other accommodations that students were making was a change in their major or coursework, as well as having special consideration during test taking, assignments, and projects (re: extended deadlines, extended time for examinations, etc.). Although these accommodations are available, students who have had self-regulation skills compromised, due to their injury may demonstrate less success being flexible and adapting their skills to other contexts, rather than being context-specific (Kennedy & Krause, 2011).

A study conducted by Todis and Glang (2008) evaluated 33 young adults with a TBI over an 8-year span. This was a longitudinal qualitative study, which looked at young adults with a TBI and their use of accommodation services, enrollment in special education, and graduation rates. The post secondary students in the Todis and Glang (2008) study found that when they did visit disability services they were eligible for a wide variety of supports. Although the participants in this study went to different four and two year colleges, common accommodations offered to students were: taking pass/fail classes, free note takers, and testing accommodations. Some students also had the opportunity to receive direct services from the counselors at the disability service center through one-on-one assistance with prioritizing, planning, organizing, time-management, and learning to balance personal and academic life. Todis and Glang (2008) also found that success in the academic environment contributed to personal factors such as

having a positive attitude, strong work ethic, determination, and flexibility. Overall, the emphasis of accommodations reflects external factors available to returning students via disability services. On the other hand, there is limited guidance in relation to internal accommodation factors such as time management, organization, prioritizing, advocacy skills, self-initiative skills, social skills, and self-identification skills. These internal factors fully complete successful academic performance. Willmott, Ponsford, Downing, and Carty (2014) stated that as a student enters into a tertiary level of schooling (i.e. college or university academia), one is expected to complete tasks in a less structured environment, become a self-directed learner, and balance the demands of working with various educators with minimal peer support. Therefore, internal accommodations such as social skills, time management, prioritizing, etc. are essential as they fulfill the need for a student to successfully make that transition from high school to college.

Lack of Education and Information about Accommodations

Internal factors not only relate to the student's ability to organize and prioritize their schoolwork and relationships, but also reflect and identify areas of challenge upon their return to college or university education. Although services are available for students who have acquired a mTBI, there is often a lack of education and understanding of those accommodations, or the student's self-identified need for them. In a study conducted by Kennedy, Krause, and Turkstra (2008) nearly half of the respondents (13 of 29 participants) reported they never used campus disability services. On the other hand, 7 of those 29 participants reported using them a majority of the time. A total of 19.2% of participants reported they have "never heard of" community resources, and 31% of participants responded they "never heard of" campus resources. Kennedy, Krause, and Turkstra (2008) gathered information in regards to if their participants would prefer to have academic assistance; over two-thirds of the respondents indicated they would be

interested in doing so. Over half of these respondents reported they would be interested in meeting other students who have also acquired a mTBI for social support and academic guidance. While both community and four-year colleges offer supports through campus disability services, many students have to go through a neuropsychological evaluation to demonstrate their need for academic supports (Todis & Glang, 2008.) Although these services are available to students, only 15 out of the 33 participants in the study by Todis and Glang (2008) accessed these services. Students reported not using these services due to the stigma of being labeled as an individual with a disability and convincing themselves they did not need academic assistance to succeed. This lack of awareness of the need for assistance is contributed to minimal knowledge and self-identification of the effects of a mTBI and how it impacts academic performance.

Kennedy, Krause, and Turkstra (2008) brought up a compelling concern of the discrepancy between the number of students whom reported academic problems and the actual number of students utilizing the campus-based services to assist them with their learning disabilities. Within this study, nearly 80% of students reported challenges in relation to their academics, but only 20% were aware of the services and accommodations available to assist them (Kennedy, Krause, & Turkstra, 2008). After completing their study, utilizing an electronic survey about experiences of college students after a TBI, they indicate that the results reflect the challenges faced of these students and that future research is needed in order to provide these students with adequate support. A study conducted by Todis, Glang, Bullis, Ettl, and Hood (2011) suggested that there is a lack of research documenting the longitudinal outcomes of individuals attaining a TBI. The researchers reported that the increase in numbers of adolescents who are surviving with a TBI indicated that there is a need to evaluate the outcomes in areas

such as employment, post-secondary education, and community integration. Todis, Glang, Bullis, Ettel, and Hood (2011) suggest the need for research with individuals attaining a TBI is to focus on factors such as severity of injury, environment, and transition outcomes. These factors are important to take into consideration, as they can have significant effects on self-perception in their ability to succeed beyond secondary school. Students who have experienced a mTBI often have to be self-directed and able to self-identify that they need disabilities services (Kennedy, Krause, & Turkstra, 2008). Low utilization of the services by these students may be due to inability to self-identify their needs and deficits. Self-regulation and self-efficacy is often compromised after a TBI, which affects the student's ability to highlight and determine the student's goals (Kennedy & Krause, 2011). Therefore, they are unable to self-direct and advocate for themselves to seek out appropriate assistance. Some of these individuals may have concern of being labeled as "impaired" or having "deficits", which can also impact the use of the services. As students are enrolling in their college or university courses, they may not realize the long-lasting effects of their injury and may experience greater difficulty in their academics. Without the use of accommodations, participants reported coursework to be increasingly difficult. The ability to transfer knowledge from textbooks to long term memory appeared increasingly difficult for students, as they were unable to recall the information they spent hours studying (Todis & Glang, 2008.) Kennedy, Krause, and Turkstra (2008) indicated that previous literature does not provide enough evidence to support the services that are available to students with a mTBI.

While TBI is a disability that became eligible to receive special education services under the Individuals with Disabilities Act (IDEA) in 1991, there continues to be concern from not only student and family members, but also educational staff, that the needs of these students are

not being met (Glang, Tyler, Pearson, Todis, & Morvant, 2004). The needs of these students are not being met primarily due to significant under-identification of individuals with TBI. Although TBI is a high incidence injury, there is a continuation of low identification of this major life event being highlighted in the academic setting (Glang, Tyler, Pearson, Todis, & Morvant, 2004; Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010). Special education services for the student population with TBI are unavailable due to the complexity of deficits that may arise post TBI (Glang, Tyler, Pearson, Todis, & Morvant, 2004). A reflection of the minimal services available for students with a previous TBI is due to the limited information and training for educators, and lack of state level resources for these students. Overall, there is a continuation of a service delivery gap with this population (Glang, Tyler, Pearson, Todis, & Morvant, 2004).

Other Life Changes

Not only do students who have acquired a mTBI face changes in their academic career, but in other aspects of their lives as well. Effects of a mTBI can be evidenced as early as a childhood injury which ultimately impacts that individual's adult life (Aldrich & Obrzut, 2012). Individuals can experience changes ranging from small to significant in other occupations such as personal goals and work. In a study conducted by Kennedy, Krause, and Turkstra (2008) six questions were asked on an online-survey addressing major or significant changes since the individual's injury. In response to these questions, 80% of participants reported changing their employment since they acquired their mTBI. Additionally, 56.3% of participants reported changing their career goals. Of these participants, 44% reported they moved from their original home since their mTBI. Within this online survey, participants were asked to refer to their life changes as being either positive or negative, and if the changes related to their injury. From the identified life changes, 69% (18 of 26 participants) reported their changes negative and related to

their brain injury. A study conducted by McDonald and Flanagan (2004) found that individuals with a TBI often had deficits in social perception. These social deficits appeared to be frequently seen when the TBI patients were asked to perceive the intent of a speaker, as well as identify subtle emotions and the basic meaning of the conversation. These impairments in social communication often leave individuals with difficulty interacting in school, work, and the community (Turkstra, McDonald, & DePompei, 2001.) Since college is a fundamental time where individuals are developing new friendships, it is critical that they have the appropriate social interaction skills to do so. When an individual is affected by a TBI, they may struggle with interpreting the implied meanings of language such as sarcasm and negotiation. College is a period of time in an individual's life where changes occur with or without an injury. Personal and professional growth are evident, as well as encountering stressful life situations where the appropriate coping skills are needed to manage these situations. Therefore, an individual with a mTBI who is not receiving appropriate accommodations during this milestone in their life may find future employment and professional opportunities to be limited and difficult to manage.

Successful Interventions to Use for the Student Population with a mTBI in a College Environment

Each individual who has experienced a mTBI may demonstrate different symptoms and impairments, but several interventions have been attempted or found successful for these students as they transition into college or university education. McKerracher, Powell, and Oyeboode (2005), found that individuals with a TBI were hesitant to use any type of intervention or compensatory strategy that drew attention to them or made them look different than other people. Using this information, McKerracher, Powell, and Oyeboode (2005) emphasized the importance of blending the opinion of the individual with a disability alongside the opinion of a

doctor or therapist. This information assists with the design of a tool/device to be implemented for student use. This tool needs to be functional in meeting the needs of each student. Another intervention used in a study conducted by Armstrong, McPherson, and Nayar (2012) found that compensatory strategies such as external memory aides (EMAs) have been found to be useful for occupational therapists conducting and structuring interventions and treatment plans to assist with memory improvements for individuals with mTBI. An EMA is defined as “a device that provides the user with a way to compensate for memory impairment by limiting the demands on the person's impaired ability” (Armstrong, McPherson, & Nayar, 2012, p. 542). An abundance of resources and tools were identified as potential EMAs that could assist in improving memory of an individual with a mTBI memory. These resources and tools ranged from high tech to low tech devices such as, iphones/smart phones, planners, diaries, and/or whiteboards. Prior to using any of these aides, it is important to address where an individual is at with understanding the severity of the impairments.

McKerracher, Powell, and Oyebode (2005) found that many individuals with a history of TBI rated themselves as having higher abilities in cognitive and behavior skills than compared to their doctors and/or significant others. To assist in helping individuals with a TBI better understand their cognitive and behavioral impairments, “reality testing” was used as an intervention (McKerracher, Powell, & Oyebode, 2005, p. 124). Reality testing requires individuals to complete daily functioning tasks that are significant and purposeful (McKerracher, Powell, & Oyebode, 2005). This test is designed for individuals to experience memory failures within each task, in order to demonstrate the need for improvement in memory for individuals with a TBI using external memory aides. Armstrong, McPherson, and Nayar (2012) stated that the three core concepts in successful use of EMAs are: developing client insight, getting client

buy-in, and making it real. Participants in this study stated that by making the EMAs real and applicable to their everyday life, it was easier to incorporate into their everyday task demands outside of therapy. This study also recognized that using EMAs in community settings offers greater relevance and ensures carry over beyond therapy.

Cognitive strategies can also be utilized to increase a desired behavior for students post mTBI. Cognitive and memory skills are necessary in order for students to self-monitor and modify behavior (Dykeman, 2009). Some cognitive interventions include cognitive therapy, the use of scripts in social situations, anxiety management strategies, and structured didactic activity that also focuses on social skills for the educational setting (Aldrich & Obrzut, 2012). Past literature suggests that Cognitive Behavioral Therapy (CBT) can serve as an intervention in assisting people with a TBI in decreasing depression and anger, while improving self-esteem and problem-solving skills (Anson & Ponsford, 2006). Draper, Ponsford, and Schnoberger (2007) found that individuals with a TBI who had severe depression and anxiety also had poor psychosocial functioning. Therefore, the study conducted by Anson and Ponsford (2006) looking at the emotional and psychological outcomes of a CBT-based coping skills group with TBI individuals, was an opportunity to evaluate the benefits of using this intervention with a TBI population. The CBT-based coping skills group was shown to be effective in this study as it demonstrated participant understanding in using coping skills when having negative thoughts and/or behaviors. CBT strategies develop structure for an individual and can aid in coping with depression and anxiety through developing interventions such as relaxation skills, cognitive reframing, and activity scheduling.

A coaching model is another intervention strategy that can be used with students who have acquired a mTBI. Kennedy and Krause (2011) examined self-regulated learning with a

dynamic coaching model for students with a mTBI. They indicated that an individual's ability to self-regulate their learning can be compromised due to challenges such as difficulty with identifying goals, reduced accuracy of self-monitoring ability, and problems making self-control decisions. The intervention was provided the first two semesters after the students returned to college post-injury. Two students participated in guided coaching conversations to first identify their strengths and weakness, which was based on neuropsychological and supplemental test results, and then related to the student's academic goals and interests. The coaches emphasized study skills and time management strategies that would be useful for the students as they returned to college. During this study, the coaches highly emphasized and taught the participant self-advocacy skills, communication skills, and other study skills to increase their academic performance. The students learned to self-advocate for the service they needed after identifying their goals and actions to obtain those goals. Both participants successfully completed all courses they were registered in and indicated the return-to-college-program with the use of the coaching model was highly beneficial. They also referred other students who experienced a TBI to the program to aide with their transition back into their academics. The researchers indicated that the success of these participants can be linked to their ability to self-advocate and direct their learning. Kennedy and Krause (2011) also indicated this is a beneficial model to incorporate into an educational system.

Similarly, Wehman, Chen, West, and Cifu (2014) conducted an exploratory, prospective longitudinal study aimed to examine the prevalence of employment and characteristics of planning practices that facilitated the school-to-work transition of students with a TBI. The National Longitudinal Transition Study-2 (NLTS-2) was used to gather data. The results from the study indicated that there were implications for school systems as they assist students with a

TBI during their transition to adulthood. The main point of this study was that the more active the student was in making decisions, accessing services, utilizing internal coping factors/strategies during the transition planning process, the greater the likelihood of attaining employment. Most often students after college or university education aim to find a job, which ultimately reflects the goal for receiving college and university education.

Due to the fluctuations of recovery for each person affected by mTBI, there is not a specific recovery course (Dykeman, 2009). In order to meet the needs of the individual, interventions will vary. Aldrich and Orbzut (2012) highlight that educators must be able to provide specific interventions to accommodate the needs of each individual student with a TBI. Research must be continued to identify new and useful intervention tools when working with individuals who have acquired a mTBI. Post injury symptoms will vary among each individual, overall, creating differences in the individual's recovery. It is important to continue research to find numerous positive and effective interventions when working with students of the TBI population.

Conclusion

Overall, the expectations and demands in a college and university environment are significantly different than secondary and postsecondary education (Willmott, Ponsford, Downing, & Carty, 2014.) Therefore, an individual with a mTBI may face greater challenges than the average non-disabled student with meeting these demands and expectations. Students returning to the college or university environment face many challenges including physical, cognitive, and psychosocial impairments that inhibit their ability to successfully return. Of these impairments, Armstrong, McPherson, and Nayar (2012) indicate that the most commonly reported symptom post injury was impairments in memory, which is a crucial factor in a

student's academics as it may play into their success. Memory impairments may lead into problems such as forgetting to complete assignments or the process of how to sequence information newly learned in a problem-based situation. Kennedy, Krause, and O'Brien (2014) supported this by stating 57% of students within a TBI population procrastinate, while 37% reported being overwhelmed. These students may demonstrate this due to their memory impairments and other cognitive deficits post injury. Students with a mTBI report similar cognitive symptoms such as these at a higher frequency than students without a mTBI injury. Not only do students of the mTBI population report more cognitive deficits impacting their college and university experience, but they also indicate having less social supports than other students on campus. As stated by Cahill, Rotter, Lyons, and Marrone (2014) students of this population often exhibit more difficulty with not only forming relationships, but also attaining them and becoming socially engaged. Previous literature supports that communication and social interactions with non-disabled peers is often difficult for mTBI students as they often struggle with finding ways to relate and engage in familiar topics (Cahill, Rotter, Lyons, & Marrone, 2014). Additionally, students may feel vulnerable in social situations, as they could have potentially experienced loss of friendship or connectedness towards others during the acute phase of their injury. Kennedy, Krause, and O'Brien (2014) support this as they stated that 46% students who experienced a TBI stated that they had fewer friends compared to students who did not have a TBI. In summary, these deficits will impact the overall experience of a student returning to the college or university setting.

Although there is an increased awareness of TBI in society, there continues to be a lack of specific accommodations and state level resources to match the needs of each individual student as they return to college or university education (Glang, Tyler, Pearson, Todis, &

Morvant, 2004; Harris & DePompei, 1997). In regards to the needs of TBI students, there is a significant amount of accommodations services lacking on college and university campuses. Glang, Tyler, Pearson, Todis, and Morvant (2004) indicate that limited training and information is available to educators to work with these students. Not only is there limited training and information, but also minimal evidence-based interventions (re: college or university resources and staff to intervene) to assist these individuals due to the lack of published literature for this specific population. Not only is there limited literature published for these students, but Kennedy, Krause, and Turkstra (2008) indicate that participants within their study had limited knowledge of resources that were available for this population as well. Half of the respondents in a study conducted by these researchers reported using the campus disabilities services. This may reflect the lack of education and knowledge of the resources, as 19.2% of those respondents reported they “never heard of” community resources and 31% “never heard of” the campus resources available (Kennedy, Krause, & Turkstra, 2008, p. 517).

Therefore, the need for a student resource manual would be beneficial for the population of mTBI students ages 17-24, returning to college, as it would address both internal and external factors that are compromised due to their disability. These internal factors include; self-identification, self-monitoring, time-management, organizational skills, social skills, advocacy skills, and becoming self-directed learners. These internal factors are often areas that are affected following a mTBI, and can greatly influence the overall success on occupational performance. External factors are important in relation to a student’s academic performance. Within this guide several external factors are addressed including environments such as housing, testing, classroom, campus, and community. Community and campus resources will be detailed for the use of the returning student to assist them in this transition period. These resources include

disabilities services, counseling, support groups, and faculty and staff assistance. In conclusion, although there are some accommodations available to students of this population, this guide will be unique in encompassing and addressing all deficits and aspects to aide students with a mTBI in their return to college and university settings.

CHAPTER III

METHODOLOGY

The following resource manual was developed for college age (17-24) students returning to the college or university setting following a mild traumatic brain injury (mTBI). This resource manual was developed to assist these students along with their families in addressing the needs, desires, and concerns regarding their return to a college or university setting. The theoretical structure of this manual is based around the Ecological Human Performance (EHP) model. The manual is structured in a manner in which various aspects of the college and university experience are addressed, such as: dormitory living, accessing accommodation services, organizational involvement, and adaptations to the students academic/classroom environment. Therefore, the interventions proposed in this manual are structured around the areas of EHP; establish/restore, adapt/modify, prevent, create, and altering environments in which the task is performed.

Overall there is a lack of literature specifically regarding intervention strategies targeting the population of college age (17-24) students who have acquired a mTBI (Harris & DePompei, 1997; Willmott, Ponsford, Downing, & Carty, 2014). The information supporting the need for this manual came from PubMed, CINHALL, Google Scholar, American Occupational Therapy Association, PsycInfo, and OT Search. The researchers decided to select scholarly literature that was evidence based, peer-reviewed, and came from psychology, educational, and rehabilitation literature. In order to find appropriate literature, the search terms used included: college students, mild traumatic brain injury, education, university, college, impact of injury, social skills, emotional support, coping strategies, experiences, cognition, intellectual functioning, following mild traumatic brain injury, school interventions, accommodations, learning, psychosocial, and

return to postsecondary education. The researchers initially focused on broad terminology, and then further specified the terminology to gather adequate information as literature was collected. The researchers inquired national and international journal articles to gather information regarding this topic. Of the sources found using these search terms, the researchers assessed the appropriateness of the literature prior to the inclusion of it for the literature review.

There were several themes that emerged from the literature review. Overall, the researchers noticed that there is a significant lack of literature in regards to the mTBI population of college students and their return to the college or university setting. A common theme that was noted was impairments in cognitive and physical abilities. These impairments led to emotional and psychosocial distress within this population. Of the previous literature, the researchers also noted that individuals of this population went through significant life changes during this time, and additional stress was placed on these students as they returned to their postsecondary education. The final and most significant theme from the literature was the lack of education regarding accommodation services available for students of this population and the overall minimal services available that directly reflect the needs of students post mTBI.

Previous studies evaluating the emotional and psychosocial distress of individuals with a TBI have found that anxiety and depression are two of the most common symptoms prevalent within this population. Willmott, Ponsford, Downing, and Carty (2014) discovered that when college students were dealing with symptoms of anxiety and depression, they struggled with adapting to new situations and were often perceived as inflexible, concrete thinkers. This study provides evidence in demonstrating the need for occupational therapy services, and the use of this manual. Occupational therapists have the skills and abilities to develop interventions, program plans, and create resources that can assist college students in learning how to organize

their time, seek out on-campus academic resources, and modify and adapt the environment to meet the student's needs. Therapists within this profession also have the skills to address and work with individuals who exhibit physical deficits post mTBI. Kennedy, Krause, and O'Brien (2014) indicated that students who have acquired a mTBI exhibit more health effects compared to those who have not acquired this injury. Physical challenges for this population may include dizziness, fatigue, post-injury headaches, a change in muscle tone, and fatigue, all impacting their return to the college and university setting. Occupational therapists will work with individuals of this population to adapt and modify environments so they may be more accessible, as well as develop intervention plans to target deficits such as fatigue that impact an individual's ability to participate in meaningful activities.

Reintegration back into the college and university setting can cause social insecurities amongst many college students with a TBI. Cahill, Rotter, Lyons, and Marrone supported this by stating students with a mTBI often feel a disconnect with other nondisabled students. They view themselves as impaired, which leads to self-doubt and difficulty with understanding social contexts, as well as comprehending social cues along with verbal and nonverbal skills. Occupational therapists have the required knowledge and tools necessary to address social skills with students who have a mTBI. Students with a mTBI struggle to make meaningful connections with others, therefore requiring the skills of an occupational therapist. Occupational therapists can create informal and formal social skills groups that address; appropriate topics of conversation, nonverbal and verbal communication, email and social media etiquette, as well as conversation starters.

Based off of previous research regarding interventions specifically geared towards the mTBI population, a manual specifically designed to assist in the reintegration process for college

students is needed. Few studies have been conducted that indicate students with a mTBI have the knowledge of accommodation services when returning to college. However out of the studies that have been conducted, Krause and Turkstra (2008) indicate that participants of this population had limited knowledge of resources available to them. Of this study, Krause and Turkstra (2008) reported that there is a lack of knowledge and education provided to students about resources available to them as 19.2% of their sample reported they had “never heard of” community resources and 31% “never heard of” the campus resources available to them.

Not only is there limited information and education for the student population diagnosed with a mTBI as they return to school, but there is also minimal professional staff (re: professors and faculty) who know and understand the challenges of students with a mTBI as they return to the educational context. Harris and DePompei (1997) conducted a study that yielded results of a need for provisions of services to support individuals who have an acquired TBI. Within their study, Harris and DePompei (1997) conducted a telephone survey to gather information that reflected the use and services available for students with a TBI in private, public, and community colleges. Of the schools who participated in this study, several indicated they were not equipped to work with students who have personal and psychological issues after their injury. The schools reported that providing these services was outside of their realm of work. Two thirds of the schools in this study indicated they had a manual or pamphlet that described services for students with a disability, however, only 4% of the private colleges/universities, 8% of public colleges/universities, and 8% of community colleges/universities listed TBI as a disability. This study assists in supporting the need for education towards staff and college or university personnel about services that are appropriate and available for students with a mTBI as they return to school. This also indicates the need for an occupational therapist to provide students

with the skills necessary to advocate for themselves in regards to working with the university or college in creating appropriate accommodations.

In order to accommodate students of this population as they return to school, there is a great need to develop a manual to guide students in their reintegration to the academic setting. This manual serves as a resource in assisting students with successful occupational performance by adapting and modifying their environments, establishing self-identification, self-monitoring, time-management, and organizational skills, as well as altering their social and academic environments to meet their personal and educational needs. In addition, this guide facilitates the identification of mTBI as a disability and challenges for students as they return to engagement in educational tasks. This guide is designed within the context of the EHP Model, which is centralized around the range of performance between an individual and their environment. This model uses human performance, or one's ability to successfully complete tasks in all areas of occupation. Within this model, the intervention approaches are establish or restore, adapt or modify, prevent, create, and alter. These intervention approaches were used to guide the specific return to education interventions and accommodations for students post mTBI and their family members.

As stated, the EHP Model served as a guide for the researchers as they developed this manual. The EHP model allowed the researches to examine the student, tasks within the academic setting, environments within the college or university setting, and the performance of the student in their academics. All themes that emerged from the literature review provided indications of the needs for this population, previous accommodations to the students, and challenges these students face when reintegrating back into the academia setting. The themes that emerged were used to direct the interventions within the manual. Previous literature of

interventions and accommodations for this population were included in this manual, but presented as a whole using all aspects of the EHP Model (re: Person, Environment, Task, and Human Performance). While previous literature focused on one area of the EHP Model and the use of interventions, this manual represents all areas of the model. Hence, this is an alignment with occupational therapy as this profession looks at the person as a whole, which incorporates their environment and tasks, as well as how the individual performs in these contexts.

This manual is important as D.L. MacLennan and D.C. MacLennan (2008) report that less than 30% of college students with a TBI graduate. This manual will serve as a resource to aide students to accomplish their academic and personal goals during their college or university experience, in hopes for future success after post secondary education. This guide will be useful for not only the students and their families, but also the college or university staff and professional personnel to assist future students of similar situations and/or challenges. This manual will be adaptable for cross-country college and university use, overall adding to the knowledge base of all professionals and staff at a college or university level in understanding the unique needs of this population and suggested resources for successful return to academics.

CHAPTER IV

PRODUCT

The purpose and intent of this manual is to serve as a student resource for students of the mTBI population, from ages 17-24, who are returning to the college or university environment. Although there is an increased awareness of mTBI in society, there continues to be minimal state level resources and accommodations within the educational setting that meets the needs of these students upon their return to college (Glang, Tyler, Pearson, Todis, & Morvant, 2004; Harris & DePompei, 1997). This resource manual serves as a guide to students of this population to fill the gap of resources available. This resource manual reflects the Ecology of Human-Performance (EHP) Model, which supports working in relation with other disciplines beside occupational therapy. Although it is projected that this resource manual will be distributed to community and outpatient occupational therapists, it is intended for student use within the academic setting (Cole & Turano, 2008). Education will be provided to occupational therapists as to the use of the manual. Therefore, OT practitioners will be able to provide this resource manual to clients and their family members, as they assist with the reintegration process back into the college or university setting. The student will be the primary party that is interacting with staff of various disciplines; this will facilitate communication between the student and the educational staff at the college or university setting. The resources provided in this manual serve as guide for students to reference when communicating with other disciplines within disabilities services, counseling, and support groups. This resource manual is structured for student use for self-directive learning.

The layout of this manual is based off of the Ecology of Human-Performance (EHP) Model. This resource manual evaluates the personal and the unique context where occupations are performed (Cole & Tufano, 2008). Therefore, the resource manual reflects the concepts that

are presented within this model. After conducting an extensive literature review, the authors discovered there is a significant lack of literature regarding students with a diagnosis of mTBI who are integrating into college. Furthermore, there are minimal accommodations and community resources available. Literature shows that there are external and internal factors, which may inhibit a student's performance in self-structured academic environments. Contexts where a student's engagement takes place include: social, temporal, cultural, and physical environments (Cole & Tufano, 2008). Each of these environments were taken into consideration when developing this resource manual.

This model is organized into three areas, highlighting the environment, person, and task (Turpin & Iwama, 2011). The first construct of EHP is the environment. Environment shapes not only the person but also the task in which the person engages (Turpin & Iwama, 2011). Various interventions are provided within this resource guide addressing the environmental aspects of EHP. The environment is influential as to how a student succeeds in an academic setting. Therefore, the interventions within this portion of the manual focus on *establish, create, alter, prevent, and modify*. The context and environment often use these interventions as the effect of student's performance range and engagement in the academic setting.

After experiencing a mTBI, students often experience psychosocial, cognitive, and minimal physical limitations (Draper, Ponsford, & Schonberger, 2007; Kennedy, Krause, & O'Brien, 2014; Kennedy, Krause, and Turkstra, 2008). The person aspect of EHP is described as the personal variables consisting of values, experiences, as well as sensorimotor, cognitive, and psychosocial skills (Turpin & Iwama, 2011). This is consistent with our manual as concepts such as cognitive skills, time management, attention and concentration, problem-solving, and decision-making are addressed. Psychosocial concepts and skills such as communication and

processing and understanding new information are addressed. The resource intervention approaches address the components of the person in relation to how students interact within their academic environment.

Personal variables overall effect the third construct of the EHP, being the task. Tasks, in which the student engages, depends on the relationship between the student and environment (Turpin & Iwama, 2008). This is reflected in our manual as the language used demonstrates that ecology is the balance of these interactions between the person (student) and the tasks they must perform, within the academic environment (Turpin & Iwama, 2008).

This resource manual serves as a guide to the student in being his/her own agent of change (Turpin & Iwama, 2008). In order to address the challenges and barriers that are present and impede the student's performance range, or ability to successfully complete a task, six interventions are utilized within EHP. The interventions proposed in this manual are structured around the areas of EHP being; establish/restore, adapt/modify, prevent, create, and alter environments in which the task is performed (Turpin & Iwama, 2011). The structure of this resource manual is beneficial because it takes into account these various interventions, which accommodates for different styles of learning.

CHAPTER V

SUMMARY

Purpose

The focus of this resource manual is to facilitate the ease of return of students with a mTBI in the college or university setting. This manual is specifically targeted for individuals 17-24 years old with a diagnosable mTBI who are transitioning back to the college or university setting. A review of scholarly literature was conducted addressing the lack of resources and accommodations available for this population. Areas of need were identified and implemented into this resource guide based off of the gaps that were found in past literature. Commonalities found amongst the literature were that students with a mTBI experience cognitive, psychosocial and physical challenges. Although literature states this is a frequent problem among many students with this diagnosis, it is noted that there is a gap in the delivery of services, as well as training and education for staff and professionals to deliver these services.

This resource manual addresses areas of challenge by integrating intervention strategies through the use of the Ecology of Human Performance (EHP) model (Turpin & Iwama, 2011). This manual has three main sections that focus on the Person, Environment, and Task. Within each of these three sections, interventions strategies are broken down into create, adapt/modify, alter/change, establish/restore, and prevent. This structure emphasizes ease of use and student empowerment to direct their learning.

Strengths

A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury was developed for students ages 17 to 24 with a diagnosis of mTBI upon their return to the college or university setting. There are many strengths to this resource manual. *A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury* is a three section resource manual that includes a variety of academic intervention strategies to be used for best fit within the individual's specific needs. This resource manual allows students to be self-directed in their return process. Additionally, this resource manual is based on the EHP model, which is a strength as it builds upon areas that present as most challenging for students with a diagnosis of mTBI. The EHP model reflects interprofessional use. This serves as a strength for this resource manual, as it easier for other professions to understand its purpose and use. Not only does the manual present strategies, but also provides additional resources, online support groups, templates for academic use, and information for financial assistance. Overall, this guide encompasses many areas of assistance for students. For example, this guide is universal in nature which allows it be used in multiple college or university settings. Although this guide is most useful in the first semester or year within their return, it is a resource that can be continuously referred to throughout their academic career.

Limitations

A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury was developed for students ages 17-24 years old with a diagnosis of mTBI returning to school, but does have some limitations. This manual is developed specifically for the diagnosis of mTBI, and does not fully encompass strategies to assist individuals who have experienced a traumatic brain injury of greater severity. This serves as a limitation because it solely benefits one type of traumatic brain injury. Therefore, interventions provided in this resource manual may not match the needs of a severe traumatic brain injury. Another barrier to this manual are that this is the first edition. This serves as a limitation because other than scholarly literature, the researchers did not have a manual to compare their manual with in regards to the quality and content. This guide is primarily focused on academic return, which serves as a limitation as there are many contexts within university and college living.

Recommendations

As previously mentioned, *A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury* is the first edition of it's kind. Once this manual has been used, it would be useful to measure and add additional areas to better serve students with a mTBI. It is recommended that further research be conducted to better serve the needs of this population. Feedback from students, family members, staff and faculty of the college or university setting should be considered when implementing changes into the manual.

Overall, further research should be geared towards this population in order to address gaps in delivery of services. There continues to be limited education and training for academic professionals to work with this population. (Glang, Tyler, Pearson, Todis & Morvant, 2004). This is of great importance, as it is predicted in the future for more diagnoses of mTBI to be

prevalent in society, as this is becoming a better-known diagnosis. Therefore, research needs to be conducted as well as changes with the delivery of services in order to fill the needs of this population.

The researchers recognize that college is only one specific area in a student's life that is of great importance. Therefore, it is recommended that additional transition periods be addressed. For example, resource guides would be meaningful for transitions out of college, finding a job, buying a house, and becoming an active member in society.

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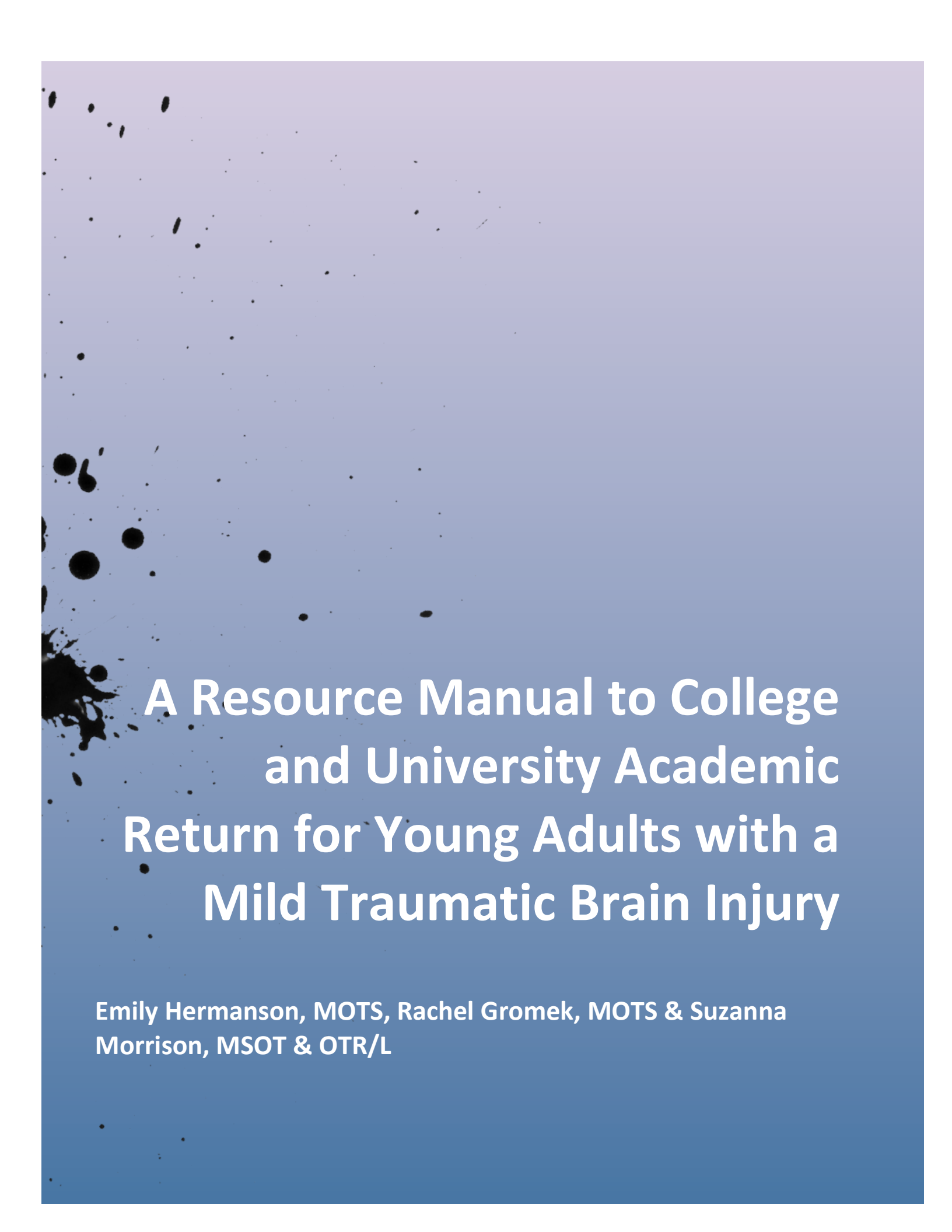
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APPENDIX

Appendix A

Product



A Resource Manual to College and University Academic Return for Young Adults with a Mild Traumatic Brain Injury

**Emily Hermanson, MOTS, Rachel Gromek, MOTS & Suzanna
Morrison, MSOT & OTR/L**

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Introduction

The purpose and intent of this manual is to serve as a student resource for students of the mTBI population, from ages 17-24, who are returning to the college or university environment. Although there is an increased awareness of mTBI in society, there continues to be minimal state level resources and accommodations within the educational setting that meets the needs of these students upon their return to college (Glang, Tyler, Pearson, Todis, & Morvant, 2004; Harris & DePompei, 1997). This resource manual services as a guide to students of this population to fill the gap of resources available. This resource manual reflects the Ecology of Human-Performance (EHP) Model, which supports working in relation with other disciplines beside occupational therapy. Although it is projected that this resource manual will be distributed to community and outpatient occupational therapists, it is intended for student use within the academic setting (Cole & Tufano, 2008). Education will be provided to occupational therapists as to the use of the manual. Therefore, occupational therapists will be able to provide this resource manual to clients and their family members, as they assist with the reintegration process back into the college or university setting. The student will be the primary party that is interacting with staff of various disciplines; this will facilitate communication between the student and the educational staff at the college or university setting. The resources provided in this manual serve as guide for students to reference when communicating with other disciplines within disabilities services, counseling, and support groups. This resource manual is structured for student use for self-directive learning.

The layout of this manual is based off of the Ecology of Human-Performance (EHP) Model. This resource manual evaluates the personal and the unique context where occupations are performed (Cole & Tufano, 2008). Therefore, the resource manual reflects the concepts that are presented within this model. After conducting an extensive literature review, the authors

discovered there is a significant lack of literature regarding students with a diagnosis of mTBI who are integrating into college. Furthermore, there are minimal accommodations and community resources available. Literature shows that there are external and internal factors, which may inhibit a student's performance in self-structured academic environments. Contexts where a student's engagement takes place include: social, temporal, cultural, and physical environments (Cole & Tufano, 2008). Each of these environments were taken into consideration when developing this resource manual.

This model is organized into three areas, highlighting the environment, person, and task (Turpin & Iwama, 2011). The first construct of EHP is the environment. Environment shapes not only the person but also the task in which the person engages (Turpin & Iwama, 2011). Various interventions are provided within this resource guide addressing the environmental aspects of EHP. The environment is influential as to how a student succeeds in an academic setting. Therefore, the interventions within this portion of the manual focus on *establish, create, alter, prevent, and modify*. The context and environment often use these interventions as the effect of student's performance range and engagement in the academic setting.

After experiencing a mTBI, students often experience psychosocial, cognitive, and minimal physical limitations (Draper, Ponsford, & Schonberger, 2007; Kennedy, Krause, & O'Brien, 2014; Kennedy, Krause, and Turkstra, 2008). The person aspect of EHP is described as the personal variables consisting of values, experiences, as well as sensorimotor, cognitive, and psychosocial skills (Turpin & Iwama, 2011). This is consistent with our manual as concepts such as cognitive skills, time management, attention and concentration, problem-solving, and decision-making are addressed. Psychosocial concepts and skills such as communication and processing and understanding new information are addressed. The resource intervention

approaches address the components of the person in relation to how students interact within their academic environment.

Personal variables overall effect the third construct of the EHP, being the task. Tasks, in which the student engages, depends on the relationship between the student and environment (Turpin & Iwama, 2008). This is reflected in our manual as the language used demonstrates that ecology is the balance of these interactions between the person (student) and the tasks they must perform, within the academic environment (Turpin & Iwama, 2008).

This resource manual serves as a guide to the student in being his/her own agent of change (Turpin & Iwama, 2008). In order to address the challenges and barriers that are present and impede the student's performance range, or ability to successfully complete a task, six interventions are utilized within EHP. The interventions proposed in this manual are structured around the areas of EHP being; establish/restore, adapt/modify, prevent, create, and alter environments in which the task is performed (Turpin & Iwama, 2011). The structure of this resource manual is beneficial because it takes into account these various interventions, which accommodates for different styles of learning.

EHP Intervention Approaches

Below is a table that defines the intervention strategies used within the EHP model.

Intervention Approach	Definition
<i>Establish/Restore</i>	This intervention approach targets an individual's skills by either aiding in establishing skills that they did not have prior, or restoring skills and/or abilities that may have been lost due to an injury, medical condition, or disability.
<i>Alter/Change</i>	This intervention approach focuses on selecting a different environment where an individual is able to perform a task by creating the best match between the individual and environment.
<i>Adapt</i>	This intervention approach is when contextual features or task demands can be enhanced or minimized to create the best match for the individual's ability to complete the task.
<i>Prevent</i>	This intervention approach focuses on preventing the reoccurrence or evolution of an individual having maladaptive performance or behaviors in a context.
<i>Create</i>	This intervention approach does not assume a disability, but rather facilitates a more adaptable or complex performance in a specific context through the creation of different circumstances.

(Adapted from Turpin & Iwama, 2011)

Accommodations and Modifications

What is an **accommodation**?

The term “accommodation” reflects alterations of an environment, curriculum format, or equipment that helps individuals with a disability acquire access to materials or content and/or participate in and complete tasks in the academic environment (University of Washington, 2015).

Accommodations may include:

- Professors or other faculty providing notes or outlines to a student
- A peer note-taker
- Extended time on exams, quizzes, and other tests
- Exams and tests being read out loud to the student
- Faculty or exam proctor writing students verbal response for exams.
- Multiple choice testing formats instead of essay or fill in the blank
- Fewer exam choice responses (2 instead of 4)
- Highlighted text or notes for course
- Preferential seating in the classroom

(Hamilton & Kessler, 2015)

What is a **modification**?

A modification is when something is changed of what is being taught. This may consist of a change in the curriculum for an individual.

Modifications include:

- A change in an assignment
- Tests written at a lower level of understanding
- Use of a calculator during an exam when originally not to be used
- Reduction of classwork
- Alternative readings
- Grades based on a pass/fail relationship

Glossary Terms

Academic Accommodations: Modifications that are made for a student with a disability to provide some means to demonstrate what they know without the interference of the identified disability.

Assistive Technology: Technology that ranges from “low” technology to advanced technology; is available for students to assist the individual to participate in activities as independently as possible. “Low” technology includes items such as calculators, timers, Velcro, and any other items an individual could typically find in the general population.

Benefits Counselor: A type of worker in an organization (which may vary by state) that assists Social Security Association disability beneficiaries when making choices with work.

Disability Support Office: The office that has the responsibility to support students with a disability who are enrolled in that college or university.

Educational Coaches: Volunteers or staff, who are available to provide support for students with a disability. Support provided focuses on; study skills, classroom behavior, time management, test taking skills, organizational skill, and different ways to access resources on campus. These volunteers may work with the student to help make arrangements for tutors or other accommodation services.

Natural Supports: Supportive and natural relationships that are fostered and developed with individuals with a disability and other non-disabled co-workers, classmates or other peers, neighbors, activity participants, and others.

Post-secondary Education: Any type of training or school that is beyond high school level. This type of training or school includes: community college, four-year university or college settings, or any type of vocational training program.

Reasonable Accommodation: Environmental changes that are used to meet the needs of an individual in accordance with the Americans with Disabilities Act (ADA).

Self-Determination: Skills that an individual needs to understand their wants and needs and to address those needs through the process of decision-making, problem-solving, and goal setting.

Self-Identity: A process in which a student who is entering college or reentering college identifies himself/herself as having a disability at the Disability Support Office.

Supported Education: Assistance that is individualized for each student, with a disability, to help him or her achieve his or her college goals. These services may include assistance to students to identify and access reasonable and appropriate accommodations, and coordination of disability support services on and off campus.

Acts and Laws

Laws that support students returning to school:

1. *Individuals with Disabilities Education Improvement Act (IDEA) 2004*
 - a. Helps to ensure that students with disabilities receive a free appropriate education that is designed to meet the student's individual needs and prepare them for employment and independent living
2. *Section 504 of the Rehabilitation Act*
 - a. Helps support students who are not eligible to receive services under IDEA and who may be eligible for other services
3. *Americans With Disabilities Act (ADA)*
 - a. Helps to end discrimination against individuals with disabilities in society
4. *Assistive Technology Act (AT Act)*
 - a. Help to improve the provision of assistive technology for individual who have a disability

(Best Colleges, 2015; Cook & Polgar, 2008; Rocchio, 2015)

ENVIRONMENT

The following areas were addressed regarding accommodations and modifications within an individual's environment:

Testing Accommodations (page 14)

→ The examples provided in this section involve intervention approaches such as:

- Alter/Change

Adjustments in Sensory Stimulation Distractors (page 19)

→ The examples provided in this section involve intervention approaches such as:

- Adapt/Modify
- Alter/Change

Support Groups (page 20)

→ The examples provided in this section involve intervention approaches such as:

- Establish/ Restore
- Prevent
- Create

Applying for Grants and Scholarships (page 23)

Coaching Model (page 24)

→ The examples provided in this section involve intervention approaches such as:

- Establish Restore
- Create

Adapting Study Spaces (page 26)

→ The examples provided in this section involve intervention approaches such as:

- Adapt/Modify
- Alter/Change

Writing Centers (page 28)

→ The examples provided in this section involve intervention approaches such as:

- Establish/Restore

Counseling Services (page 30)

Testing Accommodations

Testing Accommodations:

Accommodations within the university and college environment reflect various external factors that are available to you during your return to the educational setting via disability services. Specifically, there are accommodations available for students such as yourself with a disability who may benefit from a different environment set-up or testing set-up. The assistance of the Individuals with Disabilities Education Act (IDEA) allows students with deficits to have access and accommodations in their education (Kennedy, Krause, & Turkstra, 2008).

The following instructions are to be used for applying to college testing with accommodations.

Applying to college testing: (*Alter/Change*)

There are disability services available for students who are required to take an academic exam. Exams that may be necessary for entry to college include; SAT, SAT Subject Tests, PSAT/NMSQT, PSAT 10, and Advanced Placement® Exams. There are accommodations available for each of these exams.

Changes for these academic exams include:

- Two new test formats, one new accommodation, and (for the PSAT/NMSQT only), a Regular Print test book. See details below.
- Because of changes to the assessments, some accommodations (for example, the timing of breaks) will be administered differently.
- The cassette test format will be replaced with an MP3 audio test format.
- Students who are approved for extended time will also be provided extra breaks in between test sections.

New test formats and accommodations will be available:

- **Assistive technology–compatible test format:** This is a digital test form, delivered on a flash drive, for use with screen readers and other assistive technology.
- **MP3 audio test format:** This is an audio version of the test, delivered on a flash drive; it allows student with reading or visual impairments to listen to the test. The MP3 audio test format accommodation replaces the cassette test format accommodation.
- **Four-function calculator:** Students who are approved for this accommodation are permitted to use a four-function calculator for Math Test sections that do not permit the use of a calculator. Learn more at **Four-Function Calculator** and **Four-Function Calculator: Documentation**.

Further accommodations will include;

- Breaks to test blood sugar for those who are eligible
- Extended breaks
- Extended testing time
- Testing without essay portions
- Other testing pamphlets including Braille or large print.

Requesting accommodations for testing:

Resources to request accommodations can be found at:

<https://www.collegeboard.org/students-with-disabilities>

Requests may take up to 7 weeks. Parents and students should work with their school's guidance counselor or case manager.

What you will need:

1. Signed copy of Parent Consent Form. Parents must sign the copy, or the student if they are over 18. You will need to tell the school you have a signed consent form before submitting the request.
2. All records related to the student's disability (Mild Traumatic Brain Injury). These records include: medical records of history of event, history of receiving any accommodations, and psychoeducational evaluation records).

Requests for accommodations submitted by the student's school should follow this process:

1. Before requesting accommodations, each school designates an SSD Coordinator who requests access to SSD Online. Learn more about **Getting Access to SSD Online**.
2. A parent or guardian signs the **Parent consent form (see APPENDIX A)** and gives it to the school's SSD Coordinator or school counselor. If the student is age 18 or older, the student signs the form. The school keeps the form for its records.
3. The SSD Coordinator opens a request for accommodations using SSD Online and enters contact information for the student as well as information regarding the student's disability, requested accommodations, and testing or other documentation.
4. After the request is submitted, SSD Online displays a message stating whether documentation must also be submitted. If so, the SSD Coordinator assembles documentation and checks it against the criteria for the particular disability and for the requested accommodations.

5. The SSD Coordinator submits any required documentation to SSD by fax (using the SSD fax cover sheet), or by uploading the documentation to SSD Online. **The SSD Online request and all documentation must be submitted to the College Board by the SSD deadline to ensure a decision in time for an exam.**
6. SSD reviews all information thoroughly. In addition to being reviewed by qualified internal staff, the request may be sent to a panel of qualified external reviewers (for example, psychologists, doctors, and visual experts, as appropriate).
7. The SSD Coordinator can sign into SSD Online at any time to view the status of the request.
8. The student and SSD Coordinator are notified when a decision is made. In most cases, the student is sent the decision by postal mail. Students with a College Board My Organizer account who are registered for the SAT can view their decision letter by signing into My Organizer. If the parent's email is also associated with the student's My Organizer account, the student and parent receive an email when the decision letter is available, not a letter. If accommodations are approved, the decision letter includes an eligibility letter, containing test-by-test details. The decision and eligibility letters also include the student's eligibility code, which is needed for SAT registration.

The SSD Coordinator is notified by email and can sign into SSD Online to read the decision letter.

Go to <https://www.collegeboard.org/students-with-disabilities>. On the left hand side of the page locate the column with "Submitting a Request". Contact information will then be located on the right side of the page for any questions.

(The College Board, 2014)

Disability Services Testing and Other Accommodations (Alter/Change)

Test taking in an environment different from the traditional classroom is available for certain students. Not all students are available for this service, in order to do complete testing in a different room you must apply through your student disability services. This application will determine if you are eligible for these services.

Below is an example of the accommodation determination process from a university the Midwest United States.

1. Students must registers through the disability services in order to be determined if they are eligible for accommodations.
2. A Disability Specialist and the student will collaborate to identify the limitations that are due to the student's disability. These identified factors will be used to determine if accommodation services and appropriate and reasonable for the student.
3. The student will be provided with a document that verifies they need accommodations services. This document will also include services that are recommended for the student.
4. The student will need to request for accommodations from the professor of their courses. The student and professor will talk about the accommodation provided. The professor may ask to see verification for the accommodation, which the student will use the document given to them.
5. The Disability Specialist or other staff will be available for the student if problems arise.
6. The student will need to update their verification documents at least every semester.

(University of North Dakota, 2015; Virginia Commonwealth University, 2014)

Adjustments in Sensory Stimulation

Distractors

Choosing a distraction free place to study is very important. After experiencing a mTBI you may find that some things distract you more now than they used to.

Create Your Study Space (*Adapt/Modify, Alter/Change*)

Set up an environment that will be supportive in your learning.

Tips for your study space:

- Consistency
 - Choose one area in your house, apartment, or dorm to keep as your study area.
 - Keep your study area the same. For example, if you study in a desk at home, study in a desk at the library.
 - Make sure to choose a designated quiet area as your study space.
 - If your home environment is too distracting go to study somewhere quieter such as a public library or student union on campus.
- Minimize Habits of Distraction
 - Keep your cell phone, iPod, and other various electronic devices away from your study area.
 - Remove instant messaging from the computer and ban Facebook during study time.
 - Ban texting during studying time.

Situations to avoid when studying:

- Working with headphones on
- Studying by a TV
- Studying with friends or a peer who is distracting
- Studying near any activity you may enjoy
- Studying in your room...Unless you are able to do so without distractions

(Advising & Learning Assistance Center, Concordia University, St. Paul, 2014; 2015; Markman, 2012)

Support Groups

Social supports and communication skills are a necessity for an individual to succeed in the college or university setting, and to later continue onto their post education goals. Kennedy, Krause, and Turkstra (2008) found that individuals who had a mTBI often found great relief in confiding in other individuals with disabilities similar to theirs, as it provided them with social and academic support. As a student reintegrating back into a college/setting, you may find it helpful to join a support group on campus or an online support group. These support groups are served to assist you in your reintegration process by providing you with various avenues of support.

Join a Social or Support Groups (Club): *(Establish/Restore, Prevent)*

By joining a social or support group (or club) this will allow you to meet with other peers in the college and university setting. Colleges and university across the nation have a variety of social groups, support groups, and various clubs. Joining a group or club is beneficial for social participation, leisure activity, and overall health and well-being. Participating in a social or support group will help to restore or establish socialization skills that are beneficial to your social participation. To find out more information about what is available to you contact your college or university director of student involvement.

Creating Social or Support Groups (Club): *(Create, Prevent)*

Another option is to create a social support group (or club) at your college or university. The focus of this group can be geared toward students with a previous mTBI, or toward the student population in general. By creating a club, you are able to create a club that highlights your interests and allow you to connect with others peers in the campus and university setting. By creating a social or support group this will minimize social isolation. It is important to have social participation to facilitate health and well-being (The College Board, 2014).

Create a support or social group based on your interests and values. The outcome of creating a social or support group is to facilitate social and leisure participation in a non-threatening situation.

Some examples of a social or support group include:

- Book Club
- Movie or Film Club
- Bible or Religious Group
- Craft Club
- Video Game Club
- Music Club
- Tennis Club
- Larping Club
- Chess Club
- Cooking Group
- Yoga Club

Contact your college or university Union building, housing facility, or other buildings on campus to set a designated place to meet. When choosing a location, pick one central to the members for easy access.

Resources:

<https://www.collegeboard.org/students-with-disabilities>

Support Groups (*Create, Alter*):

The following organizations and websites are available as additional resources to join if interested.

- Brain Injury Association of America: <http://www.biausa.org/state-affiliates.htm>
- Brain Injury Network: <http://www.braininjurynetwork.org/contactinformation.html>
- Brainline.org: http://www.brainline.org/landing_pages/TBI.html
- Mayo Clinic: <http://www.mayoclinic.org/patient-visitor-guide/support-groups/minnesota>

To find additional information when return to go school go to:

- Model Systems Knowledge Training Center:
<http://www.msktc.org/tbi/factsheets/Returning-To-School-After-Traumatic-Brain-Injury>

Applying for Grants and Scholarships

College and University educational expenses can add up very quickly. However, as a student with a disability, you are eligible for additional grants and scholarships beyond the typical financial assistance initially offered to you upon readmission. Brainline.org is an additional resource that offers step-by-step directions on how to search for the grants and scholarships that meet your standards (Ruoff, 2015).

Are there scholarships or grants for students returning to College?

- <http://www.biausa.org/FAQRetrieve.aspx?ID=43918>

Grant and Scholarship Applications:

- Federal Grants: Traumatic Brain Injury (TBI) State Grants Program: <http://www.federalgrants.com/Traumatic-Brain-Injury-TBI-State-Grants-Program-694.html>
- Brain Injury Resource Center: <http://www.headinjury.com/school.htm>
- Disability Scholarships: <https://www.scholarships.com/financial-aid/college-scholarships/scholarships-by-type/disability-scholarships/>
- Disabled Student Grants: <http://www.collegegrants.org/college-grants-for-disabled-students.html>

Coaching Model

According to Kennedy and Krause (2011) the use of a dynamic coaching model is supportive of students who have experienced a TBI as they return to their college or university education. The dynamic coaching model within this study used a student coach to guide the students with a TBI as they returned to school.

Activities the coaches participated in with the student included:

- Teaching students strategies for self-assessment of effectiveness
- Reviewing homework progress
- Identifying steps needed for assignments each week
- Reviewing weekly schedules
- Creating a portfolio to describe the student's strengths, weaknesses, and various studying and learning strategies
- Regular check-ins

The results of this study showed that the students who used the coaching model improved on graded assignments, completed most of the credits they attempt, made positive academic decisions, and ended the semester in good academic standing (Kennedy & Krause, 2011).

For further information about this study refer to:

Kennedy, M. R. T., Krause, M. O. (2011). Self-regulated learning in a dynamic coaching model for supporting college students with traumatic brain injury: Two case reports. *Journal of Head Trauma and Rehabilitation*, 26(3), 212-223. doi: 10.1097/HTR.0b013e318218dd0e

Academic Coaching (*Establish/Restore*)

Academic coaching is available at various college or university settings around the nation. Coaching can help students in academic areas such as time management, getting organized, managing projects, using accommodations, managing stress, or improving test grades. Coaches work with students to help establish or restore skills needed in these areas. To find out if your college or university has academic coaching available for your use contact disability services (Ponoma College, 2015; Virginia Polytechnic Institute and State University, 2015).

Find your own coach (*Establish/Restore, Create*)

A family member or close friend can also serve as support system. If your college does not offer a coaching system, you can make your own coaching system using a family member or friend. Use your family member or friend to keep you motivated and see how you are doing as you return to school. These people can serve as a support system if you feel overwhelmed (Burns, 2012).

Adapt and Modify Study Spaces

Change up Study Spaces (Adapt/Modify, Alter/Change): According to Western Governors University (2012), in order to enhance recall and memory of learned material it is good to change up your environment and study space. Western Governors University identified 12 strategies on how you can change up your work environment to assist with your ability to recall newly learned information. The following list has been adapted from Western Governors University (WGU), which is an accredited online university.

Adaptations and Modifications to make to your study environment to improve productivity:

1. **Music** - Listen to music that is familiar that you have listened to before. Familiar music such as nature sounds and slow instrumental tunes assist with blocking out distracting loud noises, and helps creating associations to help you remember material.

2. **Background Noise**- Attempt studying various locations that offer different subtle background noises. Each individual is different with the amount of noise that it takes for him or her to become distracted. A park in the summer with birds chirping, a coffee shop with people talking and coffee brewing, library where you may hear typing, by a window where you can hear the rain falling (i.e. Permitting weather). Attempt these environments at different times using different study materials each time. You may find that one environment works when studying a specific subject such as math, but does not work when you are studying English.

3. **Smells**- Smells can either inhibit or assist with your studying. You may find that certain smells (i.e. body odor, baked goods, perfume/cologne, etc.) in different environments are more of a distractor than facilitator. It is suggested that if you constantly find yourself thinking about the smell versus the material and information you are looking over then you should remove yourself from the area. However, essential oil scents such as lavender, peppermint, citrus, rose, etc. may help with your concentration and focus.

The following website offers information on various essential oils to assist with concentration and memory: <http://www.biosourcenaturals.com/essential-oils-for-memory.htm>

4. **Lighting-** The lighting of your study environment can affect your performance and ability to do work. Poor lighting often leads to poor body posture, as you may tend to be hunched over closer to your reading material. The lighting in your study environment should be uniform throughout, without any reflections or flickers. Your eyes may experience significant strain if studying under harsh lights. It is recommended to study with either natural light from a window, or shielded full-spectrum fluorescent lights.

5. **Temperature and Humidity-** When study in locations where you have control of the temperature (i.e. home), set the thermometer at a temperature which is cool and comfortable. When studying in a setting where you have no control of the environment, be sure to bring things such as a sweater or a cold water bottle to assist with regulating your own body temperature.

6. **The Clock-** Use a clock to assist you with setting time-related goals. A clock can either serve as a distractor or a motivator. Take control of your environment by setting aside times that you will take a break, or for how long you desire to work/study on a specific assignment or subject. The key to making the use of a clock in your favor is by setting realistic goals. For example, a realistic goal would be to read a chapter of a book in one hour, versus reading eight chapters by the end of the day.

7. **Other People-** Studying with peers, or classmates can assist an individual in learning material or serve as a distractor. If you are an individual who likes to study in groups, the best way to make sure you stay on task and get done what you need to is by having a set agenda. Come to the group prepared, and with a goal of what you are going to accomplish. Set aside mini “break-times” for the group to chit-chat and socialize, however, it is important to make sure these breaks do not go longer than the set amount of time.

Writing Centers

After experiencing a mTBI you may notice that it is more difficult to complete homework tasks, such as writing papers, compared to before your injury. There are a variety of services offered to assist you with the new challenges you face as you return to college. One service that may be helpful upon your return is a Writing Center.

Attend the Writing Center (*Establish/Restore*)

What is a Writing Center?

Writing centers can vary on each college or university campus, although they all consist of a writing program or learning center. Writing centers are available to be used with students of all levels of writing. Different approaches are available to work with students and meet them at their level. By attending a writing center this may help to restore skills for writing or establish new writing skills you did not previously have.

What type of help is there at a Writing Center?

Different types of help at a writing center includes:

- One-to-One Tutorials: Tutors who may be professors, graduate students, part-time instructors, full-time instructors, or peers may attend a one-on-one tutoring session with a student. A teacher can recommend this type of service or a student may seek out this type of service out for their desire.
- Coaches, tutors, and collaborator (not teachers): This type of service does not involve a tutor's role as to help the student, but rather guide the student. The collaborator will offer feedback, suggestions, diagnose writing problems, ask questions, review information, listen to writers, or help them gain a perspective on their writing.

What are benefits of going to the Writing Center?

- Each session is individualized to meet the student's needs
- Students are encouraged to experiment with their writing
- Helps students form ideas whether it's through talking, formulating ideas outloud, or in writing
- Flexible environment
- Students can voice their concerns or purpose of the session
- More than one approach (One-to-one vs. Coaches, tutors, collaborator)
- Students of all levels welcome

(Harris, 2015)

Counseling Services

As you reintegrate back into the role of a college or university student following your brain injury, it is not uncommon to face a variety of emotions. You may experience anxiety, sadness, and frustration, or notice a change in your relationships and ability to adjust to various tasks and activities that at one time felt simpler to you. These feelings are common amongst many students with or without a brain injury; however, an individual with a brain injury may have an increased difficulty in coping with these feelings and emotions.

There are a wide variety of services that counseling can assist students like you with, who are dealing with the adjustments into the college and university setting. Many colleges and universities offer counseling services to students for free or at a discounted rate. The counselors who work on college and university campuses are trained to assist you with emotional, behavioral, and cognitive issues that arise post injury. Counseling services can help students process through changes (i.e. physical, cognitive, affective) that may have occurred as a result of their injury. Students as well as families can utilize this resource, as it can assist with re-establishing feelings of loss (re: loss of hobbies, loss of self-identification, loss of recreation, etc.). Counseling services should be viewed as a ‘tool’ in your ‘toolbox’ of resources. It is the goal of counseling services to provide a caring and supportive manner towards students such as yourself, as you reach your desired goals throughout your academic career.

If you are interested in learning more about counseling or in receiving services, contact your university or college-counseling center to schedule an appointment. Request to set up an appointment with the special services coordinator or counseling services director (Coastal Pines Technical College, 2015; New York State Department of Health, 2013; Schaaf, Stevens, & Smith, 2015).

Things to think about when finding the best-fit counselor for you:

<p>What happens at counseling?</p>	<p>The services received in counseling will depend on what problems you desire to work on. You will be expected to put in the appropriate time and effort into making desired changes. Active involvement is often expected of you. Your active participation and involvement will help prepare you in developing the skills to solve your own problems in the future. It is highly encouraged to generalize the skills learned in counseling to your home environment.</p>
<p>How does counseling help me?</p>	<p>While attending counseling, you may experience a variety of emotions. When discussing topics that are troublesome or of difficulty to you, you may notice yourself to feel an increased sense of sadness, anger, and frustration. However, as you continue to attend counseling sessions, you may notice a change in yourself and how you approach these difficult situations. It is the goal of counseling services to serve you in a manner in which you are able to build the skills necessary to approach challenges in a positive and healthy manner independently.</p>
<p>What makes a “good” counselor?</p>	<p>It may take a few sessions to figure out what skills you are looking for in a counselor. However, the following tips provide you with a general outline of things to look for in a counselor.</p> <ul style="list-style-type: none">• Dependable• Respectful• Provides necessary feedback• Shows interest in you and your problems.• Assists with goal setting.• Willing to refer you if he/she is unable to help.

<p>How much time do I spend going to counseling?</p>	<p>Upon your initial meeting with your counselor, you will work together to establish how often you two will meet. This decision is based off of your needs and desired goals to work on, as well as what the counselor deems as a sufficient amount of time to meet these goals.</p> <p>If you have reached your desired goals and your counselor discharges you from their services, it is possible to regain services at a later time if you feel the need to in the future.</p>
<p>What happens if I don't like my counselor?</p>	<p>Everyone has a different personality. Therefore, it is okay if you do not find your counselor to be a good fit for you. If you notice yourself feeling unhappy or unsatisfied with your progress in counseling, share this with your counselor. This provides your counselor with the opportunity to work on these concerns, or with the opportunity to refer you to a co-worker or another counselor who may be a better fit.</p>

(Schaaf, Stevens, & Smith, 2015).

PERSON

The following areas were addressed in regards to the Person:

Time Management (page 34)

→ The examples provided in this section involve intervention approaches such as:

- Establish/ Restore
- Create

Attention and Concentration Management (page 37)

→ The examples provided in this section involve intervention approaches such as:

- Establish/ Restore
- Create

Problem Solving/ Decision Making Strategies (page 42)

→ The examples provided in this section involve intervention approaches such as:

- Establish/ Restore
- Create

Memory Strategies (page 44)

→ The examples provided in this section involve intervention approaches such as:

- Create
- Establish/Restore

Enhancing the Quality of Communication and Social Interactions (page 49)

→ The examples provided in this section involve intervention approaches such as:

- Establish Restore

Enhancing Problem Solving and Decision Making Skills (page 57)

→ The examples provided in this section involve intervention approaches such as:

- Establish/Restore

Time Management

Time Management Skills: The ability to effectively and consciously manage the amount of time one puts into working and completing specific tasks.

Time Management Examples

Develop a Time Estimate Table (*Establish/Restore*)

- This table will assist students in evaluating what tasks they believe they will accomplish in a certain amount of time, and then compare it to how long it actually takes them.
- By evaluating how long it takes a student to accomplish or work on a task, they will be able to manage their day in a more organized manner, ensuring that everything that needs to get done can.

Table 1: Estimate Table Example:

Activity	Estimated Minutes	Actual Time
Eating Breakfast	20 minutes	35 minutes
Getting Ready for School	35 minutes	60 minutes
Walking or Driving to Campus	15 minutes	25 minutes
Reviewing notes from class	40 minutes	1 hour
Completing math worksheet	25 minutes	50 minutes
Meeting a friend for coffee	45 minutes	35 minutes

Table 1 Estimate Table Adapted from “Ten applications of time management for the workplace” by C. J. Gibbons, 2014. Retrieved from <http://www.studygs.net/workplace/timman.htm>

Make a Class Schedule (*Establish/Restore*)

- Students should make a class schedule that they can keep in their backpack, on their phone, or in their planner.
- By following a class schedule, the student will be able to manage what to do with the time they are not in class, and how to be an efficient and effective student while balancing other demands.
 - Study Time
 - Exercise/ Movement
 - Leisure

Table 2: Class Schedule Example

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 am	Class		Class		Class
9:00 am		Study Time		Study Time	
10:00 am		Class		Class	
11:00 am	Study Time		Study Time		Study Time
12:00 pm	Leisure				
1:00 pm	Class	Exercise/Movement	Class	Study Time	Exercise/Movement
2:00 pm			Exercise/Movement	Leisure	Leisure
3:00 pm	Class	Study Time		Class	

Figure 2 Estimate Table Adapted from “Ten applications of time management for the workplace” by C. J. Gibbons, 2014. Retrieved from <http://www.studygs.net/workplace/timman.htm>

Make a To Do List (*Establish/Restore & Create*)

- Developing a To-Do list assists the student in prioritizing their needs, and creates order.
- A To-Do list holds the student accountable for getting task completed, and assists the student in being productive with their time.

Table 3: To Do List Example:

1.	• Meet Counselor for group support meeting
2.	• Complete 1 page of Math Assignment
3.	• Go to the Gym
4.	• Meet with professor
5.	• Visit Accommodation Services
6.	• Print off article for class tomorrow
7.	• Call friend from home to chat
8.	• Read chapter 15 of Geography textbook
9.	• Email Professor about homework accommodations

Table 3. To Do List. Adapted from “Using external aids to compensate for memory and organizational problems post-TBI” by Teaching Research Institute, 2015. Retrieved from <http://www.brainline.org/content/2011/04using-external-aids-to-compensate-for-memory-and-organizational-proboems-post-tbi.html>

Teaching Research Institute. (2015). Using external aids to compensate for her memory and organizational problems post-TBI. Retrieved from <http://www.brainline.org/content/2011/04/using-external-aids-to-compensate-for-memory-and-organizational-problems-post-tbi.html>

Attention and Concentration Management

Attention: The act of attending to something, or taking notice to something important.

Attention Examples

Attention in relation to listening in class:

Write Everything Down: (Establish/Restore)

When it is difficult to pay attention, one strategy is to write everything down. By writing information that is being stated you will need to listen to the speaker, which will increase your attention. This is also a useful strategy to make sure you do not miss any important information stated in class (Tartakovsky, 2013).

Repeat the Speaker: (Establish/Restore)

When it is difficult to pay attention to what someone is saying, a useful strategy is to repeat what they are saying in your head. Repeating the information to yourself will increase your attention. This is a useful strategy to make sure you are not missing any important information (Tartakovsky, 2013).

Repeat the information to the speaker: (Establish/Restore)

In order to maintain attention, listen to what the speaker is saying and after the class repeat some of the information to them. By repeating the information to the speaker, it will be useful in understanding if you fully understood what they were saying. This information is useful in order to make sure you did not miss anything in relation to an assignment. This strategy is not recommended to repeat all lecture information to the speaker, but key repeating key points to the speaker may be useful in order to understand and retain important information (Tartakovsky, 2013).

Attention in relation to studying or attending to homework:

(Organizational skills will be useful when addressing attention.)

Use Timers: (*Establish/Restore*)

The use of a timer is an external tool that will set a specific amount of time you need to complete a task. A timer can be especially useful when studying. Set your timer for the amount of time you intend to study. Do not allow yourself to engage in any other activities until the timer goes off (Tartakovsky, 2013).

Organize study time: (*Establish/Restore*)

Create a study schedule with incremental studying. The brain can only take in short amounts of time study. After a mTBI this time may be even shorter. Schedule 15-20 minute studying sessions (Tartakovsky, 2013).

Attention Management Tools and Examples

Study schedule (*Establish/Restore*):

It is important to create a schedule of your day. Schedule everything, this will help to organize your day and get your mind focus on the event at each time. For example, if you know you study better in the morning map out your study time then. Study for short increments of time, and schedule intermittent breaks. Even if you know you will need to study one subject for an extended amount of time, break up that study time.

Table 4: Study Schedule Example:

Time	Topic
9:15-9:35 am	Math worksheet and reading
9:35-9:45 am	Mental break
9:45-10:05 am	Geography
10:05-10:15 am	Mental break
10:15-10:30 am	Geography
10:30-10:45 am	Mental break
10:45-11:00 am	Geography

Table 4. Study Schedule. Adapted from “A toolkit for school success: 15 study tips for students with ADHD.” By Tartakovsky, 2013. Retrieved from <http://psychcentral.com/lib/a-toolkit-for-school-success-15-study-tips-for-students-with-adhd/>

Rewards Plan (*Establish/Restore*):

Set up a rewards plan to reward yourself after accomplishing a task. By giving yourself a reward this will motivate you to work on your homework and focus your attention and energy into your work. For example, set a deadline to finish a paper two days before it is due. After setting a timeline or deadline, think of a reward. For example, if you finish your paper by then, you can go get ice cream with your friend. Rewards will remind you to stay focused during tasks in order to receive your award.

To create this plan write your rewards and goals down. Use the rewards plan outline to create this plan.

Table 5: Rewards Plan Example

Deadline	Item to accomplish	Reward
Today	Go through all of my history notecards	Extra 10 minute study break
Wednesday	Finish history paper	Ice cream with peer
Next week Monday	Email professor for feedback about paper	Watch TV for 30 minutes
Next week Tuesday	Create slides 1-15 for management class powerpoint	Take a 20 minute nap

Table 5. Rewards plan example. Adapted from “A toolkit for school success: 15 study tips for students with ADHD.” By Tartakovsky, 2013. Retrieved from <http://psychcentral.com/lib/a-toolkit-for-school-success-15-study-tips-for-students-with-adhd/>

Concentration: Willingly using all of one's energy to focus on a particular point to comprehend and understand material.

Issues with Concentration

-Difficulties with concentration are evident if an individual with a mTBI is experiencing feelings of restlessness, difficulty with completion of projects and assignments, sitting still for a long time, or working on more than one task at a time.

Improving Concentration Examples (*Create, Establish/Restore*)

- Work in a quiet environment (i.e. no telephone, radio, television, etc.)
- Eliminate outside Distractions (i.e. noises, noxious odors, large groups of people)
- Organize materials in a structure manner; minimize clutter
- Re-Read information as needed
- Break down large tasks into small steps
- Study concepts and materials in brief sections

Processing and Understanding New Information

Processing: The use of higher mental states to experience and attend to information

Automatic Processing: An experience of “automatically” experiencing a situation

Controlled Processing: Attending to a situation with an intense attentional requirement
(Brown, 2011)

Understanding: The ability to perceive and comprehend something

After a mTBI you may be feeling changes in your ability to understand and process information.

Some changes may include:

- Taking longer to understand what others are saying to you
- Taking more time to read directions and understand them
- Challenges following tv shows, movies, books, plays, etc.
- Taking longer to read and understand written information in textbooks
- Feeling slower to react

Although you may be feeling some changes there are strategies that can help you with processing and understanding new information.

Processing and Understanding Strategies: (*Establish/Restore*)

Strategy	Additional Tips for Strategy
Place your full attention on what you are doing and trying to understand.	For tips on setting up your studying environment refer to the “Environment” section of the resource manual.
Re-read information as you need to.	Read what you are trying to understand a few times and then summarize it in your own words.
Take more time to think about the information you are trying to understand.	Do not try to read or go through things fast, stop and think about what you are doing.
Ask for help from your teachers, peers, teaching assistants, or tutors.	Someone may be able to help you by describing the information in a different way.
When listening to professors or peers, ask them to slow down when talking or repeat themselves.	Repeat what they said to help you better understand.
Break down tasks into small portions better understand.	Breaking down the task can make it easier and more manageable to understand. Write how to do each portion of a task in your own words.
Make tasks manageable to understand by “chunking” the information.	Review information in small “chunks” and review each before moving on to the next concept.

(Neumann & Lequeria, 2015; Ruoff, 2015)

Memory

Memory: The ability for the mind to store and recall information both short term and long term.

Short Term Memory: The ability to recall a small amount of information, shortly after it has been learned.

Long Term Memory: The ability to recall and restore information from the brain over a long period of time.

(Mastin, 2010; Prowe, 2010)

Examples to improve memory and assist with learning/recalling new information:

Mnemonic Devices (*Establish/Restore*): Techniques that assist an individual in remembering information learned, and the ability to recall it using various strategies.

- Acronyms: An abbreviation or an initial that represents a phrase or concept.
- Rhymes: A rhythmic pattern with vocabulary that has same correspondence.
- Chunking: Breaking down information into smaller “chunks” , and grouping that information together in a meaningful manner that allows for easier memorization.
- Visualizations: Making a mental “snap shot” of information or material that you want to memorize. Use imagery to assist with remembering material and information.

Brain Games (*Establish/Restore*): Playing brain games assists individuals with memory recall, learning new information, and exercising your brain. Games are structured in a manner to keep your mind sharp, however, are fun and relaxing to play.

The following websites listed provide individuals with suggestions of games to purchase, as well as offer free games to play.

1. AARP: http://www.aarp.org/health/brain-health/brain_games/
2. Brain Injury Peer Visitor:
http://www.braininjurypeervisitor.org/index.php?p=1_65_Tools-Aids
3. Lumosity: <https://www.lumosity.com/app/v5/personalization/memory>
4. Easter Seals: http://easterseals.brainhq.com/#challenges/easterseals_challenge/intro
5. Play With Your Mind: <http://playwithyourmind.com/>

Physical Activity in Daily Routine (*Establish/Restore*):

A study conducted by Ratey and Loehr (2011), suggested that frequent physical activity is beneficial for individuals as it influences brain cognition. This study found that the frontal lobe was significantly affected by physical fitness. The greatest improvements were noted in areas such as planning, scheduling, inhibition, and working memory. As you begin to integrate back into the academic environment, incorporating physical fitness into your daily routine is not only good for your physical health but mental health as well. The American Physiological Society indicates that the increase of oxygen, glucose, and other nutrients due to physical fitness and activity assist with the blood flow to the brain. Ultimately assisting an individual with recall, memory, concentration, and focus.

The following suggestions are simple ways to incorporate physical fitness into everyday life:

- Go on a short walk during your study break
 - Take the stairs instead of an elevator
 - Play in the Park
 - Speedwalk during your errands
 - Walk to campus instead of drive
 - During TV commercials do various forms of exercise (i.e. walk in place, jumping jacks, push ups, high knees, stretching.)
- (Weir, 2011)

Teach what you have Learned (*Establish/Restore*): After learning or studying new information, attempt to teach it back to someone who has not studied the topic before. This will allow you to take control of your learning, and apply things in terms that make sense to you in order to assist others with comprehension of the material. Additionally, attempt to teach the same material to a classmate who has the same understanding of the literature as you. This will provide you with the opportunity to receive feedback from a trusted peer, and the chance to learn information from them in a different manner.

Use Apps to Block Distracting Sites (*Prevent*): The worldwide web offers many websites that can serve as a distractor for individuals when studying. If you find yourself becoming distracted on various Internet websites while working on your academics, you may want to try temporarily blocking access to these sites while you are working. The following list of websites provides you with directions on how to temporarily block websites and social media sites, in order to assist you with following through on your studies and concentrating on schoolwork.

Hack My Study- <http://hackmystudy.com/how-to-temporarily-block-distracting-websites/>

Cold Turkey- <http://getcoldturkey.com/>

Self Control- <http://selfcontrolapp.com/>

Anti-Social- <https://anti-social.cc/>

Focal Filter- <http://www.focalfilter.com/>

Develop Flashcards (*Hard-Copy or Online*) (*Create*): Flashcards serve as a quick, simple, and effective way to study new information and promote enhanced recall time. You can personalize flashcards to however you learn best (i.e. use words, pictures, phrases, mnemonics, etc.). You can increase the difficulty of flashcards by setting aside the easy ones, and solely focusing on cards you have the most trouble with. Flashcards are an excellent way to enhance memory recall because it puts you on the spot to internally think about what the most rationale answer/response would be. The following websites offer templates for how to make hard-copy flashcards, as well as the ability to use online flashcards.

Flashcards: Hard-Copy Templates

- <http://www.studygs.net/flashcard.htm>
- http://www.cambridgeenglishonline.com/Flashcard_maker/
- http://www.lakeshorelearning.com/general_content/free_resources/teachers_corner/flashcard/flashcardmaker.jsp

Flashcards: Online Cards

- <https://www.studyblue.com/online-flashcards>
- <https://quizlet.com/>
- <http://www.cram.com/>

Get enough Sleep (*Establish/Restore*): According to the Florida Institute of Technology, your body requires sleep in order to replenish energy levels and rejuvenate itself. Having enough sleep nightly provides your central nervous system and organs with the opportunity to rest. The Florida Institute of Technology states that the average person requires seven to eight hours of sleep in order to function effectively the following day. When an individual does not get enough sleep, they may experience symptoms such as irritability and a lack of energy. This ultimately leads to deficiencies in concentration, reaction time, and overall alertness. Therefore, in order for you to be able to function in an appropriate and efficient manner, it is recommended to get the average 7-8 hours of rest per night (Oelschlager, 2015).

Methods to enhance sleep (*Establish/Restore*)

1. Eliminate exercise at bedtime.
 - Although physical activity is good, exercising before bedtime may actually make it more difficult to go to sleep.
 2. Do not eat a large meal less than three hours before going to bed.
 3. Have a set bedtime as well as sleep time
 - Allow variation of only one hour, even on weekends.
 4. Avoid caffeine, nicotine and other stimulants in the late afternoon and evening.
 5. Try not to use your bedroom for activities other than sleep.
 - Some of these activities may include television watching, studying, etc.
 6. Create a bedroom environment that is comfortable for sleep.
 - Try, if possible, to keep it cool, dark and noise-free.
 7. Find a comfortable mattress and pillow.
 8. Read a relaxing book, or listen to soothing music before getting into bed.
 9. If stressful thoughts or problems are on you mind, try writing them down to put them out of your mind for the night.
 10. If you are unable to sleep, get out of bed and engage in something interesting or productive until you feel sleepy again.
 11. Avoid alcohol— sleep is inconsistent and of poor quality.
 12. Engage in relaxation techniques
 - Deep Breathing, Meditation, Progressive Muscle Relaxation
- (Oelschlager, 2015, *Sleep and College Life* [Brochure])

Additional Resources for improving memory can be found at:

<https://www.examtime.com/blog/study-hacks/>

http://com.msu.edu/Students/Academic_Guidance/long_term_retention_recall.pdf

<http://www.pepperdine.edu/disabilityservices/students/tips/memstrat.htm>

<http://www.academictips.org/memory/>

<http://www.helpguide.org/articles/memory/how-to-improve-your-memory.htm>

Enhancing the Quality of Communication and Social Interactions

In order to enhance your communication and social interaction skills, it is important to self-evaluate on the areas you may be struggling with. According to Robinson, Segal, and Smith (2015) being able to effectively communicate with others requires you to incorporate various skills such as nonverbal communication, engaged listening, managing stress, and assertive communication. The National Association of School Psychologists (2015) stated that social skills are necessary in all occupations of life. Having good social skills assists us with knowing what to say, how to make appropriate choices, and how to behave in diverse social situations.

In the college and university atmosphere, there is an expectation for students, like yourself to have good social skills and ability to effectively communicate. These expectations are transparent in regards to the individuals you communicate with who are of various backgrounds and disciplines, this includes your peers, university staff, professors, and professionals in the surrounding community in which you live. The following resources include strategies, adaptations, and modifications to improve your confidence and skills in communicating with others. Additionally, these foundational skills will assist you in other aspects of your life beyond the college and university atmosphere.

How to Start a Conversation (*Establish/Restore*):

Learning how to start a conversation with a stranger or someone new can be difficult. When re-emerging into the college/university atmosphere this can be a common occurrence. You are consistently faced with the opportunity to introduce yourself to a new peer, have a conversation with a professor, or engage in discussion with a faculty or staff member of the university. The following tips and strategies provide you with a simple and easy way to engage in conversation when meeting someone new.

Steps to take when Meeting Someone New:

1. Greet them
 - Use greetings such as:
 - Good Morning/Afternoon/Evening
 - How are you doing today?
 - How are things going for you?
2. Introduce yourself and ask their name
 - My name is (insert YOUR name), what is your name?
 - Nice to meet you (insert person's name here), my name is (insert your name)?
 - You should shake the other individual's hand if appropriate, after introducing yourself*
3. Pick a Topic of Conversation that is equally as interesting for both parties to talk about.
 - Use Small Simple and Neutral Topics that may be common interests.

Look at the following section, “Conversation Starters” for additional ideas on topics to discuss.
4. Continue on with the conversation by asking follow up questions.
 - Be an Active Listener* when the other individual is talking.
 - Use follow-up questions to points of discussion the other individual brings up
5. Close the conversation with a wrap-up statement
 - State to the other person you enjoyed meeting them (i.e. You could say, “It was a pleasure talking with you” or “It was really nice to meet you”)
 - If appropriate, you can ask the individual if they would like to meet again

* “Active listening is a structured form of listening and responding that focuses the attention on the speaker. The listener must attend to the speaker fully, and then repeat in the listener's own words, what he or she thinks the speaker has said” (Conflict Research Consortium, 2005)

(Conflict Research Consortium, 2005; Conversation Starters, 2009)

Conversation Starters (*Establish/Restore*)

Conversation starters can assist you in beginning a conversation with another individual or group of individuals. Conversation starters should always consist of *neutral* and *simple* questions or topics. The purpose of conversation starters is to provide two individuals or a group of individuals with a beginning point in conversation, and to develop another way to relate to one another. Depending on the environmental setting and/or situation you are in when attempting to converse with another individual's, conversation starters may be of serious neutral topics, or of a fun and lighthearted nature. The following list of terms and statements are examples of neutral and simple topics you can bring up when meeting someone new.

Conversation Topics:

- Current Events (re: Discuss positive current events)
- Sports
- Weather
- Pets/ Animals
- Dream Job
- Dream Vacation
- Cars and Other Automotives
- Movies/ TV Shows
- Games (i.e. Board Games, Card Games, Dice Games, etc.)
- Books
- Food & Drinks/ Restaurants
- Stores
- Travel
- Music

Appropriate College/University Social Norms (*Establish/Restore*)

When engaging in the college and university environment, there are unspoken expectations that are customary for you to follow. These expectations fall under the category of social norms. Social norms are the unwritten rules on how you should act and behave within an environment. These unwritten rules provide us with the knowledge on how to match the culture and environment in which you surround yourself with. Since many young adults structure the college and university environment, the social norms and practices are relatable to the age you may be at when re-emerging into this environment. These social norms help students such as yourself to feel a sense of meaning and purpose within the university community. The following is a list of typical social norms that would be helpful to know and understand while on a college or university campus.

- Eating in social settings with others (i.e. Dining Centers, Coffee Shops, Smoothie Bars, etc.)
 - It is appropriate to chew with your mouth closed
 - Pick appropriate topics of conversation.
 - Avoid discussing various topics regarding bodily fluids and functions, etc.
- Communicate and Engage with others in Person
 - Avoid dependence on technology as a sole means of communication.
 - Be cautious of over using gestures when engaging in conversation.
 - Monitor movements of arms/hands when talking.
- Appropriate language in public
 - Use language that represents your maturity level and age.
 - Do not speak in “text-message” language when talking to adults or individuals of a higher status.
 - Avoid swearing and using profanity in public
- Awareness of cultural norms
 - Visit the cultural center on your campus to learn about the various diversities represented in your community.

(McLeod, 2008)

Types of Communication (*Establish/Restore*)

There are many ways to communicate in today's 21st century. However, it is important to choose the appropriate form of communication when interacting with others, whether that be peers, professors, campus/university representatives, etc. The following terms are examples of ways you can communicate with the individuals involved within your campus community.

- Verbal Communication
 - According to LIVESTRONG.com, verbal communication is defined as “the sounds and language used to relay a message. It serves as a vehicle for expressing desires, ideas and concepts and is vital to the processes of learning and teaching.”
 - Two Types of Verbal Communication:
 - Public Speaking- Form of communication, which entails speaking to a group of individuals, and delivering some type of message to them.
 - Interpersonal Speaking- Form of communication that entails a two-way exchange between listening and talking
- Nonverbal
 - Communicating without words. It is the way you listen, look and react to others to demonstrate whether you care or not about what they are sharing.
 - Ways to communicate nonverbally through body language:
 - Body Posture
 - Facial Expression (i.e. frowning, smiling, serious)
 - Eye Movements
 - Head Movements
 - Gestures
- Electronic
 - According to the Offices of the United States Attorney, electronic communication entails, “any transfer of signs, signals, writing, images, sounds, data, or intelligence of any nature transmitted in whole or in part by a wire, radio, electromagnetic, photoelectronic or photo optical system.”

- Written
 - According to the University of Kent, written communication is defined as, “expressing yourself clearly, using language with precision; constructing a logical argument; note taking, editing and summarizing; and writing reports.”
 - Three main elements of written communication:
 - Structure in which content is laid out.
 - The Style in which it was written.
 - The Content of what you are writing about.

Formal Vs. Informal Communication

- Formal Language
 - Used when you want to make a good impression on people in respected positions.
 - You speak in a traditional and grammatically correct manner
- Informal Language
 - Used when talking to peers or individuals close in age to you.
 - Used with individuals you feel close to, and have a personal relationship with.
 - Conversations may feel more relaxed
 - Abbreviations and “slang” may be used to communicate

(Hanes, 2015)

Evidence-based social skills programs

The following websites include various programs that assist students with developing social and communication skills. These programs were not developed by the researchers, however, are considered to be evidence base and helpful for students with disabilities. Effective existing social skills training programs include:

- ***"Stop and Think" Social Skills Program*** (Knoff): Part of Project ACHIEVE (Knoff and Batsche). Has demonstrated success in fostering positive school climates and prosocial interactions; increasing students' on-task behavior; and improving academic performance. <http://www.projectachieve.info>
- **"Social Skills" College Living Support**: Provides students with the support they need based off the severity of their TBI diagnosis, and how much assistance they require for social skills support. <http://experiencecle.com/about-cle/social-skills/>

Enhancing Problem Solving and Decision Making Skills

Problem-Solving Skills: The ability to identify an issue or obstacle, and determine what potential opportunities or solutions can be implemented, ultimately leading to effective solutions.

Decision Making Skills: The act of choosing a solution between two or more courses of action using various forms of processes.

While engaging in activities within the college/university environment, there is a strong chance that you will be faced with situations or challenges where you will be required to problem-solve and make tough decisions. As a college student, it is important to establish problem solving and decision making skills, as they will be required in various contexts and tasks. Problem-solving skills require you to choose the best pathway to that goal. The key to problem solving, is using past experiences and knowledge to assist you with the challenge at hand. The process of using decision making skills and problem solving skills requires you to take time to step back and think through challenges, opportunities, and problems (Brown, 2011).

The Problem-Solving Process (*Establish/Restore*):

Steps	Process
<p>Step 1: Problem Definition</p>	<ul style="list-style-type: none"> • Assess what the root of the problem is. • Ask yourself the following questions: <ul style="list-style-type: none"> ○ How is the situation different from what I actually want it to be? ○ How do I want things to be? ○ What is preventing me from achieving my goals? ○ What is preventing me from things being the way I want them to be? • Write down the answer to these questions, as this may help you organize your thoughts. <p>*If you are dealing with more than one problem, make a list to prioritize what problems need to be addressed right away, and what problems can wait.</p>
<p>Step 2: Problem Analysis</p>	<ul style="list-style-type: none"> • Once you have defined the problem, analyze the problem from different perspectives to understand various aspects of the problem. • The following strategies can be used to analyze a problem. <ul style="list-style-type: none"> ○ How is this problem affecting me? ○ How is this problem affecting other people? ○ Who else is experiencing this problem? ○ How do other people deal with this problem?
<p>Step 3: Establish your Goals</p>	<ul style="list-style-type: none"> • Upon analyzing the problem, you should pick what you want to achieve. • Establish your goals, based off of the problem you want to achieve. <ul style="list-style-type: none"> ○ Think to yourself about what your “immediate goal” is and how you plan to reach it.

<p>Step 4: Generate Possible Solutions</p>	<ul style="list-style-type: none"> • After you establish your goals, you should generate possible solutions. • Ask yourself what situations or experiences have you had in the past that are similar to the problem or challenge you face currently. • Seek advice and approach friends, family, counselors, professors, or any university staff to obtain and gather ideas for potential solutions.
<p>Step 5: Analyze the Solution</p>	<ul style="list-style-type: none"> • Examine and evaluate the solutions you wrote down in step 4, and assess the advantages and disadvantages to each. • When assessing the potential advantages and disadvantages to each solution, keep in mind whether it is, <ul style="list-style-type: none"> ○ relevant to the situation ○ realistic ○ manageable • Ultimately, you want to make sure the solution you choose will help you reach your goal.
<p>Step 6: Implementation</p>	<ul style="list-style-type: none"> • This is the finally step where you can officially implement the chosen solution to reaching your end goal. • Identification of all the steps (1-5) is necessary to implement. • Monitor the effectiveness of your chosen solution, and determine if it actually solved your problem.

Adapted from (Lorain County College, 2015)

8 Steps to Simple Decision Making (*Establish/Restore*):

1. Distinguish the purpose of your decision.
2. Collect evidence and materials
3. Identify your values and beliefs to critic the alternatives.
4. Brainstorm and list alternative choices
5. Assess each choice in terms of its benefits and downfalls
6. Establish the best alternate option
7. Put the choice into action
8. Assess the consequence of your decision and action steps

(Time Management Guide, 2002)

Decision Making & Problem Solving Skill Resources:

- MindTools: Essential skills for an excellent career:
https://www.mindtools.com/pages/article/newTED_79.htm
- Lesson Planet:
<http://www.lessonplanet.com/search?keywords=teens+decision+making+skills>
- ACT for Youth:
http://www.actforyouth.net/youth_development/professionals/sel/decision_making.cfm

TASK

The following areas were addressed regarding Tasks:

Assistive Devices (page 62)

→ The examples provided in this section involve intervention approaches such as:

- Adapt/modify

External Cues (page 65)

→ The examples provided in this section involve intervention approaches such as:

- Adapt/modify

Homework Accommodations (page 68)

→ The examples provided in this section involve intervention approaches such as:

- Adapt/modify

Assistive Devices

Working on various tasks and activities throughout your day can be exhausting, whether you have a brain injury or not. For students with a traumatic brain injury these tasks may present as increased challenges in various academic contexts. Assistive devices serve as a tool for students to use in accomplishing these various academic and occupation-based tasks. Assistive technology helps people with a brain injury by providing them with resources to engage in life's activities. Assistive devices can vary from simple to complex based off of the needs of the student.

The following strategies used are *adapt/modify*.

What is Assistive Technology?

Assistive technology devices are identified in IDEA 2004 as: “Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities” (U.S. Department of Education, 2015).

Assistive technology devices are available in a variety of categories for students with disabilities to address functional capabilities:

Academic and Learning Aids:

- These aids can be electronic and non-electronic, and are used by students within the academic environment.
 - Calculator
 - Spell Checker
 - Portable Word Processors
 - Computer-Based Software

Assistive Listening Devices and Environmental Aids:

- These assistive devices are typically used for students who have hearing impairments, or require some sort of auditory modality.
 - Amplification Devices
 - Closed captioning systems
 - Environmental alert systems

Computer Access and Instruction:

- Computer assistive aides are used to help students with classroom computer use.
 - Input and output devices
 - Alternative access aids
 - Modified/ Alternative keyboards
 - Switches

Visual Aids:

- Electronic and non-electronic assistive devices that can aide students in visual processing.
 - Magnifiers
 - screen reading software

You may find the following list of assistive technology devices applicable to you within the academic environment. Each of these assistive devices focuses on aiding students such as yourself in accomplishing educational and occupational tasks.

Assistive Devices:

- Screen reading software
- Tinted overlays for reading
 - assists with visual processing
- Magnifying glass
- Calculators
- Word processors
 - talk to text
- Timers and Alarms
- Tape Recorders
- Screen enlargement programs

When you are choosing an assistive technology device to use, you may find it helpful to refer to the following seven strategies. These strategies are questions you should ask yourself in determining the effectiveness of the device, and whether you will use it to its full potential.

Determining effectiveness of assistive technologies:

1. Provides meaning and a purpose to the student using it.
2. Simple and easy to use.
3. Assists with day to day activities, and provides control over tasks.
4. Promotes use of skills currently held by the student.
5. Structure of assistive device is universally accessible.
6. Assistive device does not make student feel odd, or different than others when using it.
7. Supported by the environment; and understood by other people around the student.

Using External Cues and Aides

What are External Cues/Aides?

An external cue or aide is used to assist students with compensating for challenges with impairments by serving as a tool in addressing cognitive challenges. External aides typically fall into two categories; low tech and high tech. Low tech cues/aides are considered to be organizational tools, while high tech cues/aides are more advanced and tend to rely on electronic use. Each external cue offers assistance to students in a unique manner. What may work for one student with a mTBI may not work for another student with an mTBI. Therefore, before choosing what external cue would best work for you, doing a self-assessment or a needs assessment is recommended.

What is a Needs Assessment/ Self Assessment?

A *needs assessment* assists in identifying the need or gap in a person's daily activities or demands, and how an added benefit will assist in solving the problem or achieving the goal.

A *self-assessment* is defined as the ability of an individual to evaluate their skills and abilities in completing a task or goal, as well as identify what areas are strengths and areas of growth. Conducting a self-assessment is most common when a student evaluates their own work in order to improve their performance in a task.

Based off of the needs and self-assessment, you may find the following list helpful. This list breaks down external cues/aides into low tech and high tech examples (The Center on Brain Injury Research & Training, 2015). These external cues can assist you with managing, coping, and compensating for various challenges faced by students such as yourself in daily tasks within the academic and college living environment.

Low Tech:

- Checklists
 - This low tech external cue can assist you with following specific steps of a task (i.e. completing a homework assignment, study certain material for an exam, reading certain amount of chapters in a book, etc.)
- Wall/Pocket Calendars
 - This external cue can assist you with organizing and managing your time to ensure that you are meeting expected demands, and accomplishing activities.
- Notebooks
 - This external cue assists you in recording information within an easy and secure place (i.e. Take notes from assigned readings, class lectures, adviser meetings.)
- Daily Planners
 - A daily planner allows you to hold information across several categories (i.e. contact information & schedules). You may find that a daily planner is a simpler or more condensed version of a pocket calendar and checklist combined into one.
- Sticky Notes
 - These notes can serve as a quick and simple external cue where you can write reminders, to-do's, or short notes.
- Timer
 - A timer is used as an external cue within the academic environment by assisting students with monitoring the time they take to accomplish specific activities (i.e. completing homework, taking exams, developing projects and giving presentations).

High Tech:

- **Cell Phone/Smart Phone**
 - A cell phone or smartphone device promotes the student to access various programs such as calendars, computer functions, alarms, camera, notes/reminders, and personal/professional contacts.
 - A pro to using this high tech cue is that it offers multiple features within one location that can assist students with accomplishing educational goals. However, a con to consider when thinking about choosing this external cue is to be aware of the maintenance that comes with it (i.e. Needs to be charged often, requires careful handling, and always carries a potential risk of breaking down or deletion of information due to manufacturer malfunctions.
- **Digital Voice Recorder**
 - This is an external cue that could be used to record information to be used for later recall. This cue offers a quicker strategy for note taking for students who struggle with taking notes, or writing down information in a presentation, lecture, meeting within a timely manner.
- **Personal Digital Assistant (PDA)**
 - A PDA is an external cue that is essentially a pocket computer. This cue offers many of the same options as a cell phone and iPhone does, however does not allow you to call other individuals. The benefits to using a PDA are the easy accessibility, light weight, and the ability to manage simple and complex demands. This would be beneficial for students who prefer to leave their heavy computer at home, enjoy the ease of handheld devices, and have good computer skills.

(The Center on Brain Injury Research & Training, 2015)

Homework Accommodations

After a mTBI it is common for people to experience changes in cognition. These changes may include difficulty-focusing attention, trouble with concentration, difficulty processing information, and challenge recalling new information (Willmott, Ponsford, Downing, & Carty 2014). As you return to your education the cognitive changes you may be experiencing can have an impact on your ability to complete homework assignments and academic tasks. In order to compensate for changes in cognition there are adaptations professors or teacher can make for you as you engage in homework.

Request Homework Accommodations (*adapt/modify*)

In order to adapt your homework to better fit your skills after your injury, you will need to contact your professors to do so. To make the request, your university or college setting may require you to complete a reasonable procedures request for academic adjustments.

To make this request you will need to:

1. Gather required documentation
 - a. The documentation includes:
 - i. diagnosis of your disability
 - ii. date of diagnosis
 - iii. the event that lead to the diagnosis
 - iv. credentials of the person who gave you the diagnosis
 - v. information that reflects how your disability affects a major life activity
 - vi. information of how the disability affects your performance in school
2. Submit a request for academic accommodations
 - a. To find this process please refer to “Testing Accommodations” in the Environment section of the resource manual
 - b. Requests may also be made at the school which you attend
 - c. Contact your academic counselor or Student Disability Services for information of how you do this at your school

What are examples of homework accommodations?

There are a variety of ways a professor or teacher can make homework accommodations to best match your needs as a student. Accommodations may include:

- Reduced number of pages for paper requirements
- Exemption from reading aloud
- Allow reference to a dictionary or thesaurus for assignments
- Providing a study guide for tests and other assignments
- Providing oral and written instructions to better understand assignments
- Providing the student with the teacher notes
- Allowing extra time on assignments
- Extending assignment deadlines
- Allowing the use of a calculator on assignments
- Allowing the use of a formula sheet for math assignments

Parent

What might my child experience after a mTBI?

After a mTBI it is common that your college student might experience different things than they did before the injury. They may feel changes in cognition, emotions, and physical areas. Common changes in cognitive functions may include trouble focusing attention, trouble with concentration, difficulty processing information, and challenge recalling new information (Willmott, Ponsford, Downing, & Carty 2014). After a mTBI individuals may experience differences in emotional aspects such as feeling anxious, depressed, or fatigued (Draper, Ponsford, & Schonberger, 2007). Physical components may also be affected (Kennedy, Krause, & Turkstra, 2008). Changes in physical components may include changes in coordination, movement, fatigue, headaches, and dizziness (Kennedy, Krause, & O'Brien, 2014; Nolin, Villemure, & Heroux, 2006). You may notice changes in your young adult that influenced their return to the academic environment. The intension of this manual is to be used by students, and their family members, to help ease the student's return to this environment.

How is the resource manual divided?

Each section of this guide is divided into portions to reflect the Ecological of Human Performance (EHP) model. The guide is broken up into three parts, which matches the components of this model: person, environment and task (Turpin & Iwama, 2011). Within each section of the resource guide, a variety of strategies (interventions) are presented in order to address challenges that students may face as they come back to college. The strategies used reflect the interventions of the EHP model. These strategies aim to facilitate the return of your young adult in the college or university setting.

How can I help my child during this transition?

As your college student transitions back to the college or university setting it may be a scary or frightening time. It is normal to feel anxious as your college student is reintegrating back into school. We have provided strategies you can participate in to help your college student.

How to help when preparing for their return to school:

- ***Visit the school***

Knowing what the school is like and physical layout can help you connect with your college student as they talk about the school. Visiting the school with your college student may also help if they feel anxious upon their return. This also provides an opportunity to ask questions with staff present on campus as well.

- ***Sign-up for school information and emails***

By signing up for the school emails this is a way for you to feel connected. Some college or university settings provide emails about upcoming events, clubs available, sporting team schedules, and extracurricular activities. This will allow you to know what is available for your college student.

- ***Write down a list of testing dates***

Writing down a list of testing dates can be helpful for not only you , but also your college student as they return to school. Remember not to be overbearing with their testing dates, but rather use this as a form of organization. By writing a list of dates this can also be helpful when contacting accommodation services for tests such as the ACT, SAT, or AP prep scores.

- ***Prepare a budget with your young adult***

Budgeting when in the college or university setting may be a challenge for your student at first. By setting “ground rules” this can help them get in the mindset of sticking to a budget. Make sure to discuss the benefits of having a budget with your college student.

- ***Teach basic living skills***

As your college student transitions back to school, whether it is at a college or university setting far away or in your hometown, it is important to teach them basic living skills. Basic living skills may consist of meal preparation, cooking, laundry, cleaning skills, managing a budget, paying bills, and other basic living skills. These skills are important for your college student to learn as they transition to the college or university environment.

Emotional Support

As your college student transitions back to school it is also important to support them emotionally. College can be an extremely tough time of transition, especially because the pace of this setting is much faster (New, 2015). A study conducted by Draper , Ponsford, & Schonberger (2007) evaluating the emotions and psychosocial outcomes following a traumatic brain injury discovered that individuals with a TBI often suffered from anxiety, depression, and fatigue. Marschark, Richtsmeier, Richardson, Crovitz, Henry (2000) also reported long lasting emotional effects for individuals who had experienced, specifically, a mTBI. It is crucial that your college student feels emotional support during this tough transition time.

How to provide emotional support:

- ***Help your young adult adjust***

This is a challenging time for your college student and it is important that you help them as they may struggle with different emotions now. Some things your college student may be facing includes denial of the injury, denial of long-term impact, grief of loss of function or skill changes in relating to others, frustration with the recovery process, and limited awareness in the differences they may have compared to others.

- ***Listen to your young adult***

It is important for your college student to feel like they have someone to talk to as they return to school. Really listen to your college student and avoid offering unsolicited advice if it is not asked for.

- ***Let them know you have been there***

Provide personal stories or advice of similar situations you have been in. This might help your college student make a tough decision.

- ***Avoid lecturing***

There is a time and place when lecturing is important, but sometimes it is better to not lecture. This is a tough time in your college student's life, and mistakes will be made. Lectures are not always the most helpful, but rather that you remain positive and enthusiastic to support your college student.

EPILOGUE

Overall, the purpose of this resource manual is meant for you to use as you transition back into the academic environment. The structure of this resource manual incorporates aspects such as Person, Environment, and Task. Within each section, intervention strategies are provided to help best fit your needs and address challenges you individually experience after your injury. The structure of this manual is meant for easy use and accessibility with addressing these challenges. We encourage you to share this manual with your professors, teachers, academic advisors, counselors, parents, and other supports in your life.

Although a variety of strategies are provided in this manual, you may find that some work better than others. Therefore, this manual should be used as an aid for self-empowerment as you develop the skills in determining what adaptations, modifications, alterations, and changes work best for you. This manual is best used as you start your education again. Although you may find this most helpful within your first semester or year back, it is something that can be used throughout your academic career.

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APPENDICES

APPENDIX A
Parent Consent Form for Testing Accommodations



Services for Students with Disabilities

Consent Form for Accommodations Request

Student Information

Student Name: _____

School: _____

Student Date of Birth: _____

Student and Parent/Guardian Signature

I wish to apply for testing accommodation(s) on College Board tests (SAT, PSAT/NMSQT, and/or Advanced Placement Exams) due to disability. I authorize my school: to release to the College Board copies of my records that document the existence of my disability and need for testing accommodations; to release any other information in the school's custody that the College Board requests for the purpose of determining my eligibility for testing accommodations on College Board tests; and to discuss my disability and accommodation needs with the College Board. I also grant the College Board permission to receive and review my records, and to discuss my disability and needs with school personnel and other professionals. I agree to the conditions set forth in the student bulletins for the SAT, AP, and PSAT/NMSQT Programs relating to accommodations for disabilities.

Student Signature: _____ Date: _____

Parent/Guardian Signature: _____ Date: _____

(Parent/guardian signature is required if Student is under 18.)

Instructions to the School

This form must be used when a request for accommodation(s) is submitted electronically (via SSD Online). The form should be maintained by the school with the student's records. It does not need to be sent to the College Board. You will be asked to verify that a signed Consent Form is on file at the school prior to submitting a request for accommodations.

APPENDIX B
Templates

Table B.1: *Estimate Table:*

Activity	Estimated Minutes	Actual Time

Table B.2: Class Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
7:00 am					
8:00 am					
9:00 am					
10:00 am					
11:00 am					
12:00 pm					
1:00 pm					
2:00 pm					
3:00 pm					
4:00 pm					
5:00 pm					
6:00 pm					
7:00 pm					
8:00 pm					
9:00 pm					

Table B.3: To Do List:

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Table B.4: Study Schedule:

Time	Topic

Table B.5: Rewards Plan

Deadline (Date)	Item to accomplish	Reward