



2023

BEST PRACTICE OCCUPATIONAL THERAPY INTERVENTIONS FOR ADDRESSING TRAUMA AND POSTTRAUMATIC STRESS DISORDER: A PRACTITIONER GUIDE

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BEST PRACTICE OCCUPATIONAL THERAPY INTERVENTIONS FOR ADDRESSING
TRAUMA AND POSTTRAUMATIC STRESS DISORDER: A PRACTITIONER GUIDE

by

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Occupational Therapy Doctorate, University of North Dakota, 2023

A Scholarly Project

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Occupational Therapy Doctorate

Grand Forks, North Dakota

May

2023



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This scholarly project, submitted by Madison Ertelt in partial fulfillment of the requirement for the Degree of Occupational Therapy Doctorate from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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PERMISSION

Title: Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide

Department: Occupational Therapy

Degree: Occupational Therapy Doctorate

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April 10, 2023

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Abstract

Posttraumatic stress disorder (PTSD) impacts approximately 3.6% of adults and 5% of adolescents in the United States and has pervasive impacts on occupational performance (National Institute of Mental Health, n.d.). Occupational therapy practitioners (OTPs) likely encounter clients with PTSD frequently due to this widespread prevalence in addition to trauma being comorbid with a variety of mental and physical health conditions. Despite the widespread prevalence of trauma, many OTPs find that trauma-informed care is not adequately implemented in practice (Holman et al., 2022). There is a gap in the literature regarding occupational performance deficits experienced among clients with trauma, knowledge of how to address trauma in practice among OTPs, and application of trauma related knowledge to practice. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A) was created to bridge this gap. A needs assessment including a literature review, skilled observation, and collaboration with an OTP with expertise in trauma, was conducted to inform the guide. The guide leads the OTP through the occupational therapy process, discusses impacts of trauma, and addresses common comorbidities. With trauma being highly prevalent and having widespread impacts on occupational performance, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* is needed to provide OTPs with knowledge on how to address it in practice.

Keywords: Posttraumatic stress disorder, trauma, occupational performance, intervention, adolescents, adults

Chapter I

Introduction

Within the United States, posttraumatic stress disorder (PTSD) impacts an estimated 3.6% of adults and 5% of adolescents per year (National Institute of Mental Health [NIMH], n.d.). Individuals with PTSD experience distressing symptoms which make it difficult to carry out a wide range of occupations. PTSD has been found to negatively impact occupational performance in activities of daily living (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (American Occupational Therapy Association [AOTA], 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022). PTSD is also known to co-occur with a variety of clinical conditions that occupational therapy practitioners address including, yet not limited to, autoimmune disorders (Dai et al., 2021; Peruzzolo et al., 2022; Song et al., 2018), cancer (Bach et al., 2022; Swartzman et al., 2017), cardiovascular disorders (Fu, 2022; Rosman et al., 2019), chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al.,

2022), eating disorders (Ferrell et al., 2022), traumatic brain injury (Iljazi et al., 2020; Loignon et al., 2020), and visual impairments (Brunes et al., 2019; van der Ham et al., 2021).

Problem Statement

Despite widespread prevalence and impact on occupational performance, trauma is not adequately addressed in occupational therapy practice. The occupational therapy scope of practice includes addressing occupational participation, which includes the “emotional, psychosocial, cognitive, and physical” aspects of a person’s performance (AOTA, 2021, p. 3). Despite this, not all occupational therapy practitioners address mental health conditions, including PTSD, within everyday practice. A survey conducted by Holman et al. (2022) of 103 occupational therapy practitioners identified a trend where trauma-informed care (TIC) was not adequately implemented in practice despite being viewed as important. There is a gap regarding occupational performance deficits experienced among clients with trauma, knowledge of how to address trauma in practice among occupational therapy practitioners, and application of trauma related knowledge to practice. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A) bridges this gap by providing occupational therapy practitioners knowledge on how to address occupational performance deficits seen among clients with trauma.

Purpose

The purpose of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* is to provide a guide for occupational therapy practitioners to increase knowledge on how to address occupational performance deficits seen among adolescents and adults with trauma. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide*,

will review the occupational therapy process as it relates to trauma including evaluation, intervention, and review of outcomes (AOTA, 2020b). The overarching goal of the guide is to bridge the gap among occupational performance deficits experienced among clients with trauma, practitioner knowledge on the topic of trauma, and application of this knowledge to practice. The intended audience of this guide includes all occupational therapy practitioners who wish to gain additional knowledge on the topic of trauma.

Objectives

There are several objectives that *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* aims to address. The overall goal of the guide is to educate occupational therapy practitioners on how to address occupational performance deficits among adolescents and adults with trauma and apply this knowledge to practice. Additional objectives for occupational therapy practitioners reading the guide include:

1. Identify the six principles of TIC along with one example of how each can be applied to practice.
2. Identify common person and environmental factors which may impact occupational performance among individuals with trauma.
3. Analyze the functional impacts of comorbidities that commonly accompany trauma.
4. Apply principles of TIC to evaluation through screening for individuals who may benefit from trauma-specific interventions, building an occupational profile, analyzing occupational performance deficits, and synthesizing knowledge to build a client-centered intervention plan.

5. Implement occupation-based trauma interventions in practice while adhering to the principles of TIC.
6. Articulate and apply the outcomes process as it relates to clients with trauma.

Theoretical Framework

This scholarly project is guided by the person-environment-occupation (PEO) model (Law et al., 1996). PEO is an occupation-based model that considers how dynamic transactions among person, environment, and occupation factors influence occupational performance throughout the lifespan (Law et al., 1996). The PEO model is used throughout this scholarly project to analyze how differing person, environment, and occupation factors interact throughout the lifespan and impact occupational performance among individuals with trauma (Law et al., 1996).

Significance of Project

Trauma adversely impacts nearly all areas of occupational performance however occupational therapy practitioners are not provided sufficient knowledge to address these occupational performance deficits in practice. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* bridges the gap among occupational performance deficits experienced among clients with trauma, practitioner knowledge on the topic of trauma, and application of this knowledge to practice. The guide provides information on the occupational therapy process as it relates to adolescents and adults with trauma including evaluation, intervention, and review of outcomes along with education on trauma-informed care, trauma symptomology, and common comorbidities (AOTA, 2020b). With the lack of occupational therapy literature addressing adolescents and adults with trauma, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress*

Disorder: A Practitioner Guide is needed to provide guidance to occupational therapy practitioners to address occupational performance deficits accompanying trauma in practice.

Key terminology

The following key terms are utilized throughout this scholarly project:

- **Adolescent:** an individual between 13 to 18 years of age.
- **Adult:** an individual between 18 to 65 years of age.
- **Occupational performance:** occupational performance describes the ability to perform meaningful occupations and is influenced by transactions among person, environment, and occupation factors. Occupational performance is dynamic and changes throughout the lifespan (Law et al., 1996).
- **Person-environment-occupation (PEO) model:** an occupation-based model used within the field of occupational therapy that considers the transactional relationship among the person, their environment, and occupations with an end goal of optimizing occupational performance (Law et al., 1996).
- **Posttraumatic stress disorder (PTSD):** a trauma-and-stressor related disorder that results from direct or indirect exposure to at least one traumatic event and involves experience of at least one avoidance symptom, one re-experiencing symptom, two arousal and reactivity symptoms, and two cognition and mood symptoms for greater than one month (American Psychiatric Association, 2013).
- **Trauma:** an experience resulting from exposure to one or more traumatic events that present an individual with psychological, emotional, and/or physical harm (American Psychological Association, 2019; SAMHSA, 2014b). Trauma may be directly or

indirectly witnessed and may or may not lead to a diagnosis of a trauma-and-stressor related disorder (American Psychiatric Association, 2013).

- **Traumatic event:** an event that is directly or indirectly witnessed that leads to psychological trauma. Traumatic events may include, yet are not limited to, emotional abuse, physical assault, sexual violence, exposure to war, terrorist attacks, domestic violence, incarceration as a prisoner of war, being kidnapped, torture, motor vehicle accidents, natural or human made disasters, catastrophic medical incidents, witnessing unnatural death, historical traumas (e.g., residential school, ethnic cleansing, forced relocation, destruction of cultural practices), and childhood trauma (American Psychiatric Association, 2013; Manitoba Trauma Informed Education & Resource Centre, 2023).
- **Trauma-informed care (TIC):** an approach taken by practitioners and organizations that considers the high prevalence of trauma within society, recognizes the impacts of trauma on individuals and groups, understands the signs and symptoms of trauma, responds to trauma by applying the six principles of TIC, and actively resists re-traumatization (SAMHSA, 2014a). The six principles of TIC include safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender factors (SAMHSA, 2014a).

Chapter II

Literature Review

Brief Overview of Trauma and PTSD

Trauma arises from an experience or experiences that result in an individual enduring significant psychological, emotional, and/or physical harm and consequently has adverse effects on their everyday occupations (American Psychological Association [APA], 2019; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014b). An occupation, as defined by the World Federation of Occupational Therapists, refers to “everyday activities that people do as individuals, in families, and with communities to occupy time and bring meaning and purpose to life” (World Federation of Occupational Therapists, 2023, para. 2). Individuals that experience trauma may subsequently develop posttraumatic stress disorder (PTSD) when they experience at least one avoidance symptom, one re-experiencing symptom, two arousal and reactivity symptoms, and two cognition and mood symptoms for greater than one month that negatively impacts engagement in everyday life (American Psychiatric Association, 2013; National Institute of Mental Health [NIMH], 2020). With PTSD impacting an estimated 3.6% of adults and 5% of adolescents in the United States, it is imperative that occupational therapy practitioners know how to address trauma within practice (NIMH, n.d.).

Trauma and PTSD may bring about deficits in several areas of occupations that occupational therapy practitioners are qualified to address (American Occupational Therapy Association [AOTA], 2020b). These occupations include activities of daily living (ADLs) (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (IADLs) (AOTA, 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management

(AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022). With PTSD impacting an estimated 3.6% of adults and 5% of adolescents in the United States, it is imperative that occupational therapy practitioners know how to address the occupational performance deficits that accompany trauma (NIMH, n.d.). In fact, PTSD may co-exist with several clinical conditions that occupational therapy practitioners commonly address including, yet not limited to, autoimmune disorders (Dai et al., 2021; Peruzzolo et al., 2022; Song et al., 2018), cancer (Bach et al., 2022; Swartzman et al., 2017), cardiovascular disorders (Fu, 2022; Rosman et al., 2019), chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al., 2022), eating disorders (Ferrell et al., 2022), traumatic brain injury (Iljazi et al., 2020; Loignon et al., 2020), and visual impairments (Brunes et al., 2019; van der Ham et al., 2021), making it of utmost importance for practitioners to be familiar with how to address trauma in any area of practice.

Therefore, the aim of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A) is to increase practitioner knowledge and bridge the gap in current trauma literature to build additional evidence-based, occupation-based interventions to address trauma and PTSD. The author of this literature review outlines trauma and PTSD in relation to the person, their environment, and their

occupations. In addition, the author describes how trauma impacts occupational performance, lays out the current evidence-base in trauma literature, and identifies gaps in the literature. The intended audience of this literature review are all occupational therapy practitioners who would like to understand and gain knowledge on how to appropriately approach trauma and PTSD in practice. The scope of this literature review includes all types of traumas (e.g., combat, domestic violence, interpersonal traumas, natural disasters, etc.), adolescents and adults, sources primarily published within the past five years (apart from three organizational sources in which the most recent, comprehensive publications are used), and the sources are not limited by location published. Included in this review are 21 level one evidence journal articles, eight organizational sources, and three textbook sources.

Occupation-Based Model

An individual's experience of trauma and PTSD are described using the person-environment-occupation (PEO) model (Law et al., 1996). The PEO model is used to understand transactions among the person, their environment, and their occupations with the goal of optimizing occupational performance (Law et al., 1996). Within the PEO model, person, environment, and occupation factors often overlap demonstrating different transactions that either support or hinder occupational performance (Law et al., 1996). Therefore, although this literature review is organized according to person, environment, and occupations, the transactional relationship between the three components is demonstrated accordingly. For example, an individual experiencing hyperarousal (person component) in the environment of a grocery store (environment component) may resultingly experience occupational deficits in the IADL area of shopping (occupation), demonstrating a poor fit between the person, environment,

and occupation. Further transactions like the example provided above are evident throughout the remainder of this review.

Person

Physical

Individuals who experience trauma may present with various physical manifestations that impact occupational performance. Common physical manifestations of trauma include feeling tired/fatigued, elevated heart rate, rapid breathing, feeling shaky, upset stomach, headaches, sweating, and worsening of ongoing medical conditions (SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a). Heightened physical manifestations of trauma can subsequently carry over to difficulty with emotional regulation (McGreevy & Boland, 2020) and an increased vulnerability to experiencing flashbacks (SAMHSA, 2014b). Physical symptoms over time can take a significant toll on the body and mind and may lead to occupational performance deficits in IADLs (Champagne, 2019), health management (Berk-Clark et al., 2018), sleep (Champagne, 2019; SAMHSA, 2014b), education (Champagne, 2019), and work (Champagne, 2019). Somatization, which is an increased focus on bodily symptoms resulting from emotional distress, is another physical manifestation of trauma of significant clinical consideration given its common presentation within non-western cultures (Michalopoulos et al. 2020; SAMHSA, 2014b).

Cognitive

In addition to physical symptoms, individuals undergoing traumatic experiences may also exhibit a plethora of cognitive deficits. Trauma has been associated alongside reported deficits with concentration (Champagne, 2019; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), memory (Champagne, 2019; NIMH, 2020; SAMHSA, 2014b),

attention (Champagne, 2019), decision making (SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), social cognition (Couette et al., 2020; Janssen et al., 2022), executive functioning (Selemon et al., 2019), cognitive distortions (NIMH, 2020; SAMHSA, 2014b), and disorientation (SAMHSA, 2014b). These deficits may negatively impact participation in IADLs, sleep, education, and social participation. With IADLs, concentration deficits and dissociation may put one at risk for driving (Champagne, 2019; Edgelow et al., 2019) and cooking (Champagne, 2019). Concentration difficulties may result from sleep deficits commonly seen among those with trauma, and these difficulties may in turn negatively impact other areas of productive occupations such as education (Edgelow et al., 2019). Additionally, deficits in the areas of social cognition and cognitive distortions have the potential to negatively impact social participation secondary to an impaired perception and ability to interpret the intentions of others (Couette et al., 2020; Janssen et al., 2022). Evidence therefore suggests that cognitive aspects of a person with trauma pose a poor fit with the occupations of driving, cooking, sleep, education, and social participation.

Sensory

Individuals who experience trauma may also have differences in their sensory processing patterns which may negatively impact occupational performance. PTSD is associated with a higher tendency towards sensory sensitivity, sensory avoidance, and low registration, in addition to a lower tendency towards sensory seeking behaviors (Brown et al., 2019; McGreevy & Boland, 2020). These findings align with commonly reported PTSD symptomology such as increased arousal which relates to sensory sensitivity, avoidance which relates to sensory avoidance, and feelings of numbness which relate to low registration (Brown et al., 2019; McGreevy & Boland, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a).

Signs that an individual is experiencing changes in arousal may include increased irritability or angry outbursts (Champagne, 2019; U.S. Department of Veterans Affairs, 2022a). In addition, changes in arousal levels may negatively impact occupational performance in ADLs (NIMH, 2020), IADLs (Champagne, 2019), sleep (Champagne, 2019; Edgelow et al., 2019; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022b), work (Champagne, 2019), and social participation (Champagne, 2019; Scoglio et al., 2022), all of which demonstrate a poor fit between the sensory aspects of a person and these occupations.

Affective

Affective symptoms are also common among individuals following traumatic experiences. Affective presentations following trauma include withdrawal, avoidance, feeling detached or numb, irritability, anger, depression, anxiety or fear, guilt, shame, suicidal thoughts, (NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), delusions, hallucinations, and dissociation (SAMHSA, 2014b). In addition, individuals who have experienced trauma are more likely to have trouble displaying compassion towards others (Couette et al., 2020) and commonly experience low levels of self-compassion (Winders et al., 2019). Those who experience higher levels of self-compassion on the other hand may engage in less self-blame, reduced avoidance, demonstrate an increased tolerance for difficult emotions, display increased help-seeking behaviors, and experience improvements in social participation (Winders et al., 2019). This information suggests that increasing self-compassion may be a plausible affective variable to target during intervention given its positive impacts on affective person factors and occupational performance.

Spiritual

Spiritual well-being is to be considered alongside other person factors to maintain a fully client-centered focus. Spirituality may be disrupted following exposure to traumatic events. Initially, individuals may react to trauma through intense use of prayer, attempts to restore faith, despair regarding humanity, disruption of life assumptions, and loss of self-efficacy (SAMHSA, 2014b). Delayed spiritual reactions of trauma may include questioning of why a traumatic event happened, increased cynicism or disillusionment, increased self-confidence from surviving the trauma, loss of purpose, renewed faith, re-establishment of priorities, redefining life meaning, and reworking life's assumptions to accommodate the trauma (SAMHSA, 2014b). Spiritual distress can also disrupt intimate relationships, put one at a higher risk for suicide, and increase trauma symptomology (Harris et al., 2021). If a client begins questioning life values and meaning, spiritually integrated care that involves incorporating "the client's spiritual beliefs in the therapy process" may be a useful tool to use (Harris et al., 2021, p. 197).

Environment

Physical

Various aspects of the physical environment may result in a person being triggered by past trauma. Triggers may be sensory in nature, and therefore an individual may refrain from engagement in occupations that elicit triggers (Champagne, 2019; McGreevy & Boland, 2020; SAMHSA, 2014b). Environmental triggers may impact how an individual carries out several occupations including yet not limited to home management, shopping, driving, education, and work (Champagne, 2019). In addition, individuals may adopt a sedentary lifestyle to avoid environmental triggers which creates further difficulties, particularly with the occupation of health management (Berk-Clark et al., 2018). Accordingly, there is a poor fit between a person

who experiences trauma, triggers within the physical environment, and various areas of occupations depending on the person.

Social

A large protector against exacerbation of trauma symptomology is social support (NIMH, 2020; Scoglio et al., 2022; Smith et al., 2020). Those with trauma may avoid social support for a variety of reasons including feeling as though others lack understanding, perceiving themselves as a burden, anxiety, fear of relationships, experiencing triggers, and shame (Champagne, 2019; SAMHSA, 2014b). Individuals with trauma also commonly experience strain in interpersonal relationships, ultimately leading to further impairments in social participation (AOTA, 2015; Champagne, 2019; Couette et al., 2020; SAMHSA, 2014b; Scoglio et al., 2022).

Cultural

Culture can shape a person's experience of trauma and how they recover from it. Many trauma symptoms experienced by individuals of non-western cultures do not align with the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* criteria for PTSD (American Psychiatric Association, 2013; Michalopoulos et al., 2020; SAMHSA, 2014b). In a systematic review conducted by Michalopoulos et al. (2020) on global presentations of trauma, it is relayed that the four most common symptoms experienced after a traumatic event among all cultures include persistent negative emotional state, detachment from others, fear, and alienation/isolation. Accordingly, only two out of four of these symptoms come from the *DSM-5*, indicating a need to focus on individual people and their experiences of trauma rather than diagnostic criteria for PTSD (American Psychiatric Association, 2013). Various non-western cultures experience trauma through physical symptoms and somatization (Michalopoulos et al., 2020; SAMHSA, 2014b). Headaches and migraines are common presentations of trauma across

Latin America, South Asia, and Southeast Asia (Michalopoulos et al., 2020). In addition, “issues related to the heart (e.g., heartache, weak heart, sick heart)” are also common among South Asia and Southeast Asia (Michalopoulos et al., 2020, p. 411).

Along with differences based on cultural regions, gender differences also exist relating to trauma (Michalopoulos et al., 2020; SAMHSA, 2014b). Symptoms such as an increase in reckless or self-destructive behavior, irritability, angry outbursts, trauma related dreams, flashbacks, family problems, and substance abuse are seen in higher frequencies among males while sleep disturbances, psychological reactions to reminders of trauma, inability to socialize, loss of sense of self, suicidal thoughts, and shame are more common among women (Michalopoulos et al., 2020).

Institutional

Only two sources address the institutional environment and its impacts on occupational performance. One of these resources specifically addressed facilitators and barriers to help-seeking behaviors of individuals with trauma (Smith et al., 2020). Facilitators relating to the institutional environment for seeking help include adequate income source and employment, having insurance, and online access (Smith et al., 2020). Barriers related to the institutional environment include cost/affordability, time logistics (e.g., distance to clinic, time taken off work, transportation, language barriers, lack of referrals), and continuity of care (SAMHSA, 2014b; Smith et al., 2020). More evidence is needed to thoroughly understand the impact the institutional environment has on individuals who experience trauma.

Virtual

Despite the widespread use of technology, there is minimal literature that addresses the impact of the virtual environment in relation to trauma and PTSD. Only four sources (Deng et

al., 2019; Knaust et al., 2020; Lee et al., 2020; SAMHSA, 2014b) included in this review address the virtual environment and half of these sources focus solely on virtual interventions.

Preliminary evidence suggests that the virtual environment may function as a supportive tool that can increase access to treatment and provide online resources for self-help (Lee et al., 2020; SAMHSA, 2014b). There is little evidence available to portray the negative impacts that the virtual environment may have on an individual that experiences trauma, particularly regarding what they may be exposed to through social media or television. This is an additional area that should be explored given the widespread prevalence of technology in society.

Occupation

Influence on Occupational Performance

Trauma and PTSD may lead to deficits in several areas of occupations including ADLs (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), IADLs (AOTA, 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022). Accordingly, deficits in these areas of occupations are depicted in further detail below.

Activities of Daily Living

Individuals with trauma may experience deficits in all areas of ADLs given the widespread impacts of trauma (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021). Keeping up with self-care ADLs (e.g., personal hygiene, showering, and dressing) may be difficult secondary to negative experiences with environmental trauma triggers, demonstrating a poor fit between the person, their physical environment, and ADL occupations (Champagne, 2019). In addition, changes in eating patterns (e.g., eating more or less) are common among individuals who have experienced trauma, though causality behind this is not fully explained by sources included in this review (NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a).

Instrumental Activities of Daily Living

A wide variety of IADLs are impacted following exposure to trauma and occupational performance deficits related to these are highly individualized. Literature identifies several areas of occupational deficits regarding IADLs in the areas of care of others (Champagne, 2019), driving (Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), community mobility (Champagne, 2019; Edgelow et al., 2019), financial management (Edgelow et al., 2019), home management (AOTA, 2015; Champagne, 2019), meal preparation (Champagne, 2019; Edgelow et al., 2019), and shopping (Champagne, 2019). Occupations such as driving and cooking may be particularly impacted by cognition which can create safety risks due to difficulty staying focused, distractibility from environmental triggers, and dissociation (Champagne, 2019). Additionally, feeling comfortable in community-based environments is also challenging for many individuals' due to various environmental triggers, and this can ultimately lead to avoidance of occupations within the community (Champagne, 2019; NIMH, 2020).

Health Management

Individuals who experience trauma may have deficits in health management occupations, specifically those involving symptom and condition management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), communication with the health care system (Berk-Clark et al., 2018; Smith et al., 2020), and physical activity/nutrition management (Berk-Clark et al., 2018; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a).

Symptom and Condition Management. Individuals who experience trauma often have difficulty managing distressing symptomology and resort to maladaptive coping strategies. Substance use and self-harm behaviors are common maladaptive coping strategies that an individual may engage in (AOTA, 2015; Champagne, 2019; Kearns et al., 2018; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a). Use of substances is a way for individuals to attempt to reduce PTSD symptomology with the expectation of improvement in negative affective states (Berk-Clark et al., 2018; Kearns et al., 2018). In addition, experience of trauma is associated with not keeping up with regular health care visits which can subsequently have detrimental impacts on an individual's health and well-being (U.S. Department of Veterans Affairs, 2022a). It appears as if individuals with trauma often search for solutions to escape or numb PTSD symptoms temporarily, and these solutions often lead to additional health consequences (Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a).

Communication with the Healthcare System. Challenges regarding communication with the health care system prevent those that need help from obtaining it due to logistical barriers. Some of these logistical barriers to care include insurance coverage, cost, lack of understanding of PTSD services, lack of therapist expertise, wait times, lack of treatment

choices, and poor continuity of care (Berk-Clark et al., 2018). Other culprits acting as barriers to obtaining care include shame or stigma, lack of trust, and negative past experiences with the healthcare system (Smith et al., 2020).

Physical Activity and Nutrition Management. Experience of trauma is associated with reduced physical activity levels (Berk-Clark et al., 2018; SAMHSA, 2014b), increased incidence of smoking (Berk-Clark et al., 2018; Kearns et al., 2018; U.S. Department of Veterans Affairs, 2022a), and obesity (Berk-Clark et al., 2018). A possible explanation for decreased physical activity may be the lack of engagement in other meaningful occupations to avoid environmental triggers relating to trauma (Berk-Clark et al., 2018). In addition, changes in eating habits (NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a) and reduced physical activity may together be a possible explanation for an increased incidence of obesity in those with PTSD (Berk-Clark et al., 2018).

Sleep

Sleep deficits are one of the most common occupational deficits impacting individuals with trauma (Edgelow et al., 2019). Individuals with trauma often experience nightmares (Champagne, 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), insomnia (Maher et al., 2021; U.S. Department of Veterans Affairs, 2022b), avoidance of sleep (Maher et al., 2021; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022b), shorter sleep durations (Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022b), talking during sleep (U.S. Department of Veterans Affairs, 2022b), unwanted body movements during sleep (SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022b), panic awakenings (SAMHSA, 2014b), and poor sleep quality (SAMHSA, 2014b; Slavish et al., 2022). Shorter sleep durations, lower sleep quality, and experience of new

nightmares specifically predicts greater PTSD symptomology (Slavish et al., 2022). Deficits in sleep are particularly concerning considering sleep participation impacts meaningful engagement in most all other areas of occupations. In addition, sleep deprivation accompanying PTSD may further exacerbate trauma symptomology and lead to other negative outcomes such as slowed reaction times, troubles with learning and memory, irritability, and impaired concentration (U.S. Department of Veterans Affairs, 2022b).

Education and Work

Occupational performance deficits are identified in the areas of education and work among individuals who experience trauma (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a). A variety of person factors including yet not limited to difficulties with concentration, dissociation, and hyperarousal help explain why those who experience trauma may have difficulties with education and work (Champagne, 2019). Work deficits may present as difficulty maintaining one's position and difficulty transitioning from the role of being a soldier back into civilian life (Champagne, 2019; Edgelow et al., 2019). Veterans may have an especially challenging time finding and maintaining employment as they may feel at a loss following being unable to return to their previous role as a soldier (Edgelow et al., 2019).

Social Participation

Individuals who have experienced trauma may find social participation difficult for several reasons. Common factors contributing to social participation deficits include difficulty with interpersonal relationships (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Scoglio et al., 2022), social isolation (Edgelow et al., 2019; NIMH, 2020; Scoglio et al., 2022), difficulty recognizing emotions in others (Couette et al., 2020; Janssen et al., 2022), lack of trust

(Couette et al., 2020; SAMHSA, 2014b), avoidance (Champagne, 2019; SAMHSA, 2014b), and hyperarousal (Scoglio et al., 2022). Difficulties with intimate relationships may be disrupted secondary to aggression towards partners (Couette et al., 2020), avoidance behaviors, and fear (Champagne, 2019). Family relationships may be complicated by a lack of understanding of PTSD and societal stigma (Edgelow et al., 2019; Lee et al., 2020), in addition to anger, impulsivity, and physical and verbal aggression (Couette et al., 2020).

Interventions

Trauma-Informed Care

Trauma-informed care (TIC) is an approach that should be adopted by occupational therapy practitioners regardless of which area they choose to practice given the widespread prevalence of trauma and PTSD (Edgelow et al., 2019). TIC consists of six guiding principles which include safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and consideration for cultural, historical, and gender factors (Centers for Disease Control and Prevention, 2020; SAMHSA, 2014a). It also takes into consideration that clients with trauma are doing the best they can, avoids practices which may retraumatize an individual, and emphasizes physical and psychological safety (Champagne, 2019; Edgelow et al., 2019; SAMHSA, 2014a). Consideration of individualized sensory preferences is a unique way to ensure feelings of client safety and promote TIC within occupational therapy (O’Sullivan & Fitzgibbon, 2018). With this, a practitioner may consider avoidance of triggering sensory experiences and promotion of a treatment environment that is sensory calming and safe (McGreevy & Boland, 2020; O’Sullivan & Fitzgibbon, 2018).

Occupation-Based Interventions

A current abundance of literature supporting occupation-based interventions is limited yet literature that does exist supports these types of interventions. Occupation-based interventions that may be beneficial for those who have experienced trauma include skills training (Champagne, 2019; Edgelow et al., 2019; Edgelow et al., 2020; Scoglio et al., 2022) and improving performance in meaningful occupations (Champagne, 2019; Edgelow et al., 2019). Future research should explore specific individualized, occupation-based interventions for trauma and PTSD.

Interventions to Support Occupations

There are several evidence-based interventions that support the end goal of improving occupational performance that are not occupation-based. Current evidence-based interventions that improve PTSD symptomology include cognitive processing therapy (APA, 2019; Lee et al., 2022; Rozek et al., 2021; SAMSHA, 2014b), cognitive behavioral therapy (APA, 2019; Champagne, 2019; Lee et al., 2022; Maher et al., 2021; SAMSHA, 2014b; Winders et al., 2019), dialectical behavioral therapy (Lee et al., 2022; Rozek et al., 2021), prolonged exposure (APA, 2019; Lee et al., 2022; Rozek et al., 2021), imagery rehearsal therapy (Lee et al., 2022; Maher et al., 2021), narrative exposure therapy (APA, 2019; Rozek et al., 2021), eye movement desensitization and reprocessing (APA, 2019; Lee et al., 2022; Rozek et al., 2021; SAMSHA, 2014b), trauma-informed yoga (Harris et al., 2021; Lee et al., 2022), sensory-based interventions (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O'Sullivan & Fitzgibbon, 2018), cognitive rehabilitation (Zare et al., 2022), expressive therapies (Edgelow et al., 2019), and virtual reality exposure therapy (Deng et al., 2019; Knaust et al., 2020; Lee et al., 2022). Additional interventions that support performance in work and sleep are presented below.

Interventions to Support Work. Despite several sources identifying work as an occupational deficit seen among those with PTSD, only one source in this literature review explores interventions that relate specifically to work. Promising interventions present in the literature that address work concerns include the “ReDO” intervention, multidisciplinary integrated mood and anxiety program, program for traumatic stress recovery, exposure therapy, trauma-focused group therapy, environmental modifications, adjustments made to match client skills and abilities, stakeholder education, graded activities, modifying routines, and return to work phases (Edgelow et al., 2020).

Interventions to Support Sleep. Deficits in sleep are commonly reported among individuals who experience trauma (Edgelow et al., 2019; Maher et al, 2021; NIMH, 2020; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022b). Treatments that demonstrate efficacy for trauma-related sleep disturbances include sleep specific cognitive behavioral therapy, imagery rehearsal therapy, mind-body therapies, sleep focused psychotherapies (including both cognitive behavioral therapy for insomnia and imagery rehearsal therapy), and cognitive behavioral therapy (Lee et al., 2022; Maher et al., 2021). Interventions that target sleep particularly, as opposed to treating solely PTSD symptoms, show the greatest impacts on sleep improvement (Maher et al, 2021).

Discussion

Limitations of Review

Limitations of this literature review ought to be considered. An overall limitation of the sources incorporated includes poor population validity constituting a lack of generalizability to broad populations and demographics that trauma may impact. Eight out of 21 journal articles include a population in which the majority of the sample are military personnel (Berk-Clark et

al., 2018; Deng et al., 2019; Edgelow et al., 2019; Jellestad et al., 2021; Knaust et al., 2020; Maher et al., 2021; Rozek et al., 2021; Scoglio et al., 2022; Slavish et al., 2022; Smith et al., 2020) and two of eight organizational sources come from the U.S. Department of Veterans Affairs (U.S. Department of Veterans Affairs, 2022a, 2022b), ultimately limiting generalizability of these sources primarily to the military population. In addition, several journal articles fail to mention gender (Edgelow et al., 2019; Harris et al., 2021; Lee et al., 2022; Winders et al., 2019) and race (Couette et al., 2020; Edgelow et al., 2019; Edgelow et al., 2020; Harris et al., 2021; Knaust et al., 2020; Lee et al., 2022; Maher et al., 2021; McGreevy & Boland, 2020; Rozek et al., 2021; Winders et al., 2019) specific demographics. Of the studies that do include race demographics, Caucasian individuals make up a majority of the sample which limits generalizability of these studies to the Caucasian population (Berk-Clark et al., 2018; Scoglio et al., 2022; Slavish et al., 2022; Smith et al., 2020). In addition, some studies lack gender diversity and include a primarily male sample (Berk-Clark et al., 2018; Knaust et al., 2020; Scoglio et al., 2022; Slavish et al., 2022). Another limitation to this literature review is only seven sources (AOTA, 2015; Brown et al., 2019; Champagne, 2019; Edgelow et al., 2019; Edgelow et al., 2020; McGreevy & Boland, 2020; O'Sullivan & Fitzgibbon, 2018) come from occupational therapy literature secondary to a lack of abundance of high-level evidence within the occupational therapy literature. Lastly, another limitation of some journal articles is that a large majority of the sources included within the articles are of cross-sectional design and therefore causality may not be accurately drawn from these studies (Janssen et al., 2022; Jellestad et al., 2021; Scoglio et al., 2022; Winders et al., 2019). Overall, more level one evidence-based journal articles are needed within the occupational therapy literature that feature a diverse demographic sample to fully generalize findings of the trauma literature for more broad use.

Strengths of Review

In addition to limitations, several strengths are also present throughout this review. Of the sources included, many journal articles include both male and females, all sources apart from two organizational sources are published within the past five years, and all research articles constitute level one evidence. In addition, although some sources focus largely on the military population, several other populations are also represented throughout the journal articles. This improves generalizability of information in this review to broader types of traumas.

Gaps in the Literature

Several gaps in the literature are found related to research surrounding trauma and PTSD. In terms of person aspects, there is a lack of high-level evidence studies surrounding specific presentations of somatization among various populations. Although not included in this review, interoception is another sensory aspect of the person that is not commonly mentioned in the literature and thus would benefit from further exploration. In terms of the environment, there are gaps in the literature surrounding the institutional and virtual environments. Only two sources in this review targeted the institutional environment, therefore additional exploration is warranted to better understand the relationship between a person and supporting/limiting factors of the institutional environment on a more comprehensive level. There is also a lack of evidence on adverse impacts of the virtual environment, particularly regarding social media and television exposure. Given the widespread use of this technology in society, this area would benefit from further exploration. On an occupation level, several occupational deficits are identified yet specific reasons underlying those deficits are not explained. Lastly, there is also a lack of abundance of high-level evidence studies targeting the effectiveness of occupation-based interventions, occupational therapy interventions targeting work, sensory-based interventions,

and interventions targeted at rebuilding social supports. Thus, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* will aim to address some of these gaps to provide a more comprehensive picture of the widespread impacts of trauma and PTSD.

Conclusion

Current literature suggests that individuals with trauma and PTSD experience occupational deficits in the areas of ADLs (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), IADLs (AOTA, 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022). Despite knowing that these occupational deficits exist, literature is lacking regarding specific occupational therapy interventions that may be used to address these deficits. In addition, results discussed within this review are limited in terms of generalizability. Therefore, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* will work to bridge gaps in occupational therapy literature by addressing occupational deficits and building additional evidence-based interventions. Accordingly, the focus of *Best Practice Occupational Therapy Interventions for Addressing Trauma and*

Posttraumatic Stress Disorder: A Practitioner Guide will be to build evidence-based interventions and guide occupational therapy practitioners to appropriately address trauma and PTSD in practice.

Chapter III

Methodology

Chapter III will discuss the methodology undertaken to complete this scholarly project regarding project procedures, project design and theoretical framework, and ethical considerations.

Project Procedures

The needs assessment for this project involved completion of a literature review, skilled observation and interaction with clients with trauma, and collaboration with an occupational therapy practitioner with expertise in trauma. The occupation-based model chosen for this scholarly project was the person-environment-occupation (PEO) model (Law et al., 1996). This model was chosen to better understand the transactions among the person with trauma, their environment, and occupational performance. The model was broken up into its person, environment, and occupation components to write relevant transaction questions which helped guide the literature search.

Following the creation of guiding questions based off the model, several sources were explored for information. Sources searched included electronic databases (e.g., PubMed, CINAHL, Embase, PsycINFO, PTSDpubs), government websites, textbooks, and professional organization recommendations. Key search phrases for electronic databases included “PTSD”, “posttraumatic stress disorder”, “occupation”, “occupational therapy”, “intervention”, “interventions”, “systematic review”, “scoping review”, and “meta-analysis”. Inclusion criteria for the literature search included sources published in the English language, level I evidence journal articles, textbooks, government websites, professional organization recommendations, sources published within the past five years or the most recent comprehensive publication for an

organization, and sources must have addressed psychological trauma. Exclusion criteria for the literature search included conference presentations, publications in a language other than English, journal articles below level I evidence, journal articles that only focused on medical or medication-based interventions, and journal articles published prior to 2017.

Following the literature search, needs of the population were identified. The needs of the population were identified from the literature review to lie within the areas of activities of daily living (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (AOTA, 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022).

Following identification of these needs, skilled observation and collaboration with an occupational therapy practitioner with expertise in trauma was conducted to narrow down the most pertinent needs of the population. Through synthesis of knowledge gained from the literature review, skilled observation, and collaboration with an occupational therapy practitioner with expertise in trauma, the most pertinent needs of the population were identified to lie within activities of daily living, instrumental activities of daily living, health management, sleep, and social participation.

Project Design and Theoretical Framework

Following the needs assessment, it was determined that *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A) was needed to provide knowledge for occupational therapy practitioners on how to address trauma in occupational therapy practice. The guide was arranged to address the occupational therapy process as it related to trauma including evaluation, intervention, and review of outcomes (AOTA, 2020b). The purpose of leading the occupational therapy practitioner through the entirety of the occupational process was to address the practitioner knowledge gap on the topic of trauma.

The PEO model helped inform creation of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (Law et al., 1996). It was initially used during the needs assessment process to organize data gathering of the varying person, environment, and occupation components of the model. From there, the model was used within the guide to provide guidance and organization throughout the occupational therapy process. Specifically, within the intervention section of the guide, relevant transactions were gleaned from the PEO model related to individuals with trauma. These transactions assisted in creation of interventions for the most pertinent areas of occupational need as identified by the needs assessment. Transactions commonly addressed physical, cognitive, affective, and sensory person factors; the physical and social environment; and the most pertinent occupational needs.

Ethical Considerations

Several ethical considerations were taken into account throughout the development of this scholarly project. Ethical reasoning was used during the development and dissemination of

this guide. Intellectual property of others was respected and references were cited when developing this guide. Confidentiality was also respected when developing case studies presented within the guide. Case studies presented within the guide were contrived by this author to match general characteristics of individuals with trauma and were not based off actual clients.

The occupational therapy code of ethics was considered when disseminating this product. It is expected that occupational therapy practitioners follow principles set forth within the occupational therapy code of ethics when applying principles of this guide to practice (AOTA, 2020a). This includes following the principles of beneficence, nonmaleficence, autonomy, justice, veracity, and fidelity (AOTA, 2020a). Occupational therapy practitioners using this guide should ensure they have read the guide and demonstrate competence in evaluations and interventions prior to administering to clients to abide by the principles of beneficence and nonmaleficence. In addition, is expected occupational therapy practitioners using this guide attribute credit to the author and abide by the copyright set forth by this guide.

Chapter IV

Product

The product of this scholarly project is a practitioner guide titled *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A). This guide provides guidance for occupational therapy practitioners on how to address trauma and posttraumatic stress disorder (PTSD) in practice.

Overview of Trauma and PTSD

Trauma results from an experience or experiences that present significant psychological, emotional, and/or physical harm to an individual (American Psychological Association, 2019; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014b). Individuals who experience trauma and display at least one avoidance symptom, one re-experiencing symptom, two arousal and reactivity symptoms, and two cognition symptoms for greater than one month that negatively impact engagement in daily life activities subsequently receive a PTSD diagnosis (American Psychiatric Association, 2013; National Institute of Mental Health [NIMH], 2020). PTSD impacts an estimated 3.6% of adults and 5% of adolescents in the United States within a given year (NIMH, n.d.). Prevalence of trauma within society is likely underestimated however given barriers to diagnosis. These barriers include yet are not limited to differing cultural presentations of trauma that do not fit the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* criteria for PTSD along with the nature of trauma symptomology which may lead to avoidance of seeking help (American Psychiatric Association, 2013; Michalopoulos et al., 2020; SAMHSA, 2014b).

In addition to being highly prevalent within society, trauma and PTSD have widespread influences on occupational performance. They may present deficits in several areas of occupation

including yet not limited to activities of daily living (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (American Occupational Therapy Association [AOTA], 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022).

Need and Purpose of Guide

Due to the high prevalence within society and extensive influences on occupational performance, it is urgent that occupational therapy practitioners possess the comfort and knowledge to address trauma in practice. Occupational therapy practitioners are qualified to address mental health conditions as this is within their scope of practice. The occupational therapy scope of practice includes addressing “emotional, psychological, cognitive, and physical” person factors, the environment, and a client’s occupational performance (AOTA, 2021, p. 3). Several occupational therapy practitioners however do not specifically address mental health conditions within their everyday practice. Speculated explanations for this include yet are not limited to comfort levels providing mental health interventions, limited experience addressing mental health conditions, workplace culture, and knowledge base on mental health interventions. Thus, this guide is needed for occupational therapy practitioners to provide

education and increase comfort levels addressing trauma in practice to address occupational performance deficits experienced among clients. Furthermore, the overarching purpose of this guide is to provide ease in addressing trauma in practice by leading practitioners through the occupational therapy process. In addition, increased practitioner knowledge will ultimately benefit client outcomes throughout the occupational therapy process.

Intended Audience of Guide

This guide is created for an occupational therapy clinic in the Midwest to provide direction for future employees and students on how to address trauma in practice. In addition, this guide is also meant to be available to all occupational therapy practitioners who would like to increase knowledge and comfort levels addressing trauma in practice.

Description of Guide

The guide described in appendix A addresses best practice occupational therapy interventions for trauma and PTSD. The occupational therapy process as it relates to trauma is reviewed within the guide which includes evaluation, intervention, and review of outcomes (AOTA, 2020b). The guide is divided into sections. Sections within the guide include introduction, occupation-based model, trauma-informed care (TIC), impacts of trauma, comorbidities, evaluation, intervention, outcomes, and conclusion. Additional information regarding content within the introduction, occupation-based model, TIC, impacts of trauma, comorbidities, evaluation, intervention, and outcomes sections are provided below.

Introduction

The introduction section of the guide is broken up to give a brief overview of trauma, scope of guide, need for the guide, and purpose of the guide. The brief overview gives definitions of trauma, PTSD, and different types of traumas. The need for the *Best Practice Occupational*

Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide is described in terms of the prevalence of trauma, impacts of trauma on occupational performance, scope of occupational therapy practice regarding trauma, gaps in the literature, and potential reasons why trauma and PTSD are not being adequately addressed in practice. The purpose of the guide is then discussed in more detail. Following the introduction, the occupation-based model is then discussed.

Occupation-Based Model

Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide is developed through the lens of the person-environment-occupation (PEO) model, which takes into consideration transactions among the person, their environment, and occupations with an end goal of optimizing occupational performance (Law et al., 1996). The person within the PEO model is viewed in terms of their physical, cognitive, sensory, affective, and spiritual components along with consideration for unique life experiences occurring throughout the lifespan (Law et al., 1996). The environment is viewed in terms of the physical, social, cultural, institutional, and virtual aspects that surround a person (Baptiste, 2017). Occupations are categorized by self-care, productivity, leisure, and sleep (Baptiste, 2017).

The PEO model was chosen to guide *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* for several reasons. The PEO model encompasses the dynamic interactions seen among individuals with trauma throughout the lifespan. Several transactions are seen among a person with trauma, the environment, and occupations which ultimately influence occupational performance. These transactions are explained in further detail within the intervention section of the guide. In

addition, PEO relates to the concept of TIC through its consideration of unique life experiences, focus on personal strengths, and consideration for cultural aspects of the environment which may influence occupational performance. TIC is explained in further detail below.

Trauma-Informed Care

The TIC section lays out the six principles of TIC, provides an explanation on the meaning of these principles, and provides application of these principles to practice. The six principles of TIC include safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender factors (Centers for Disease Control and Prevention, 2020; SAMHSA, 2014a). These six principles are used throughout the guide and incorporated throughout the occupational therapy process.

Impacts of Trauma

Following the explanation of TIC, impacts of trauma are described. Within this section, the impacts of trauma on the person, environment, and occupations are discussed. Impacts of trauma are described in terms of impacts on the physical, cognitive, sensory, affective, and spiritual aspects of the person. They are then explained in relation to their impacts on the physical, social, cultural, institutional, and virtual environments. Lastly, impacts on self-care, productivity, leisure, and sleep occupations are discussed.

Comorbidities

The comorbidity section presents and explains several mental and physical health comorbidities that may accompany trauma. Each comorbid condition is explained in terms of its association with trauma and possible explanations for the association.

Evaluation

The evaluation section of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* takes the practitioner through the occupational therapy process related to evaluation. The evaluation process includes screening, building an occupational profile, analysis of occupational performance, and synthesis of the evaluation process (AOTA, 2020b). The author begins by providing information on how to screen individuals for occupational therapy needs and determine if treatment for trauma is warranted. The author then provides guidance on how to build an occupational profile to obtain subjective data and how to perform analysis of occupational performance to obtain objective data. Within each step of the evaluation process, several assessments are described. An explanation is provided for each assessment along with a description of its relevance to trauma and reason for inclusion. Following the occupational profile and analysis of occupational performance, synthesis of the evaluation process is described.

Intervention

The intervention portion of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* provides an occupational therapy trauma intervention toolbox then lays out evidence-based, trauma-informed interventions for five areas of occupation: activities of daily living, instrumental activities of daily living, health management, sleep, and social participation (AOTA, 2020). For each area of occupation addressed, a brief case study is provided along with relevant interventions. Refer to figure one for a brief introduction to the case studies presented in *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* and titles of intervention sessions related to each case study presented.

Figure 1

Description of Interventions

Area of Occupation	Brief Introduction to Case Study	Titles of Interventions
Activities of Daily Living	A 16-year-old male (he/him) named Bobby is struggling with completing personal hygiene tasks due to sensory sensitivities and motivation. Bobby struggles with PTSD, anxiety, and depression.	<ul style="list-style-type: none">• Building an ADL routine• Addressing tactile over-responsivity with ADLs
Instrumental Activities of Daily Living	Kerri is a 37-year-old female (she/her) who has been struggling with PTSD after a traumatic incident in a grocery store. Kerri is currently struggling with grocery shopping and meal preparation due to associations with trauma along with accompanying sensory and cognitive challenges.	<ul style="list-style-type: none">• Addressing meal preparation difficulties• Managing sensory overload in the grocery store• Addressing avoidance of grocery shopping
Health Management	A 24-year-old female (she/her) named Holly with PTSD, postural orthostatic tachycardia syndrome (POTS), and generalized anxiety disorder wants to improve her ability to attend and	<ul style="list-style-type: none">• Planning for healthcare visits• Self-advocacy during healthcare visits

	<p>advocate for herself at medical appointments. Current limitations impacting occupational performance include cognitive, sensory, and affective person factors along with the physical and the social environment.</p>	<ul style="list-style-type: none"> • Addressing avoidance surrounding healthcare visits
Sleep	<p>Marvin is a 50-year-old male (he/him) who has been struggling with sleep secondary to his PTSD. Current variables negatively impacting sleep include sensory and physical person components as well as the physical sleep environment.</p>	<ul style="list-style-type: none"> • Modulating senses to promote sleep • Building a sleep routine
Social Participation	<p>Amy is a 17-year-old female (she/her) who is in her senior year of high school. Her mom referred her to occupational therapy secondary to difficulties with PTSD, avoiding friends, irritability, low-self-esteem, and difficulties with emotional regulation.</p>	<ul style="list-style-type: none"> • Addressing sensory challenges that impact social participation • Addressing avoidance of social interactions

Throughout interventions, two frames of reference (FOR) are primarily utilized. These include cognitive behavioral theory (CBT) (Cole & Tufano, 2020) and sensory processing FOR

(Brown et al., 2019). CBT, for example, is used within an intervention to reframe cognitive distortions which are contributing to an individual's fear and avoidance of occupations that are meaningful to them. An example of use of the sensory processing FOR within intervention includes addressing auditory over-responsiveness via sensory interventions which improve an individual's social participation. Further uses of both FOR's are present within the intervention section of the guide in appendix A.

Outcomes

Outcomes are the product of the occupational therapy process and describe what a client has achieved through engagement in occupational therapy services (AOTA, 2020b). The outcomes section of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* will give a brief overview of the outcomes process related to individuals with trauma. This will include measurement of outcomes, the transition process, and when to discontinue occupational therapy services.

Conclusion

Given the widespread prevalence and impact on occupational performance, it is vital that occupational therapy practitioners feel comfortable properly addressing trauma and PTSD in practice. Addressing the “emotional, psychological, cognitive, and physical” person factors is within the occupational therapy scope of practice and thus all occupational therapy practitioners should be addressing these variables within their practice (AOTA, 2021, p. 3). Thus, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* is needed to provide ease in addressing trauma in practice to provide occupational therapy practitioners with increased comfort and knowledge levels on the topic. *Best Practice Occupational Therapy Interventions for Addressing Trauma and*

Posttraumatic Stress Disorder: A Practitioner Guide will ultimately allow for occupational therapy practitioners to provide optimal care by addressing all aspects of the person to promote improved client outcomes.

Chapter V

Summary

This scholarly project resulted in the creation of a guide titled *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* (see appendix A). Creation of the guide resulted from conduction of a needs assessment which involved a literature review, skilled observation and interaction with clients with trauma, and collaboration with an occupational therapy practitioner with expertise in trauma. The person-environment-occupation (PEO) model was used as a framework to inform data gathering throughout the needs assessment process by breaking the person, environment, and occupation factors into their respective components (Law et al., 1996). Collecting needs on individual person, environment, and occupation factors ultimately led to the discovery of the most pertinent needs impacting individuals with trauma (Law et al., 1996). The most pertinent needs identified in the literature were seen in the occupations of activities of daily living (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (American Occupational Therapy Association [AOTA], 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al.,

2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022).

Through the needs assessment, it was determined that *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* was needed to bridge the gap between occupational performance deficits seen among clients with trauma, lack of practitioner knowledge on the topic of trauma, and application of this knowledge to practice. Therefore, the purpose of *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* was to bridge the gaps among occupational performance deficits experienced among clients with trauma, practitioner knowledge on how to address trauma in practice, and application of trauma related knowledge to practice. The intended audience of this guide included all occupational therapy practitioners who wanted to gain knowledge on addressing trauma in practice. In addition, this guide was developed for a private practice agency in the Midwest to provide a guide for future employees and students on how to address trauma in occupational therapy practice.

Strengths and Limitations of Project

Although *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* addresses a wide range of topics, there are limitations to consider. Limitations of the guide include generalizability, lack of pilot runs of all elements in the guide, and lack of recent occupational therapy literature of high levels of evidence on the topic of trauma. This guide was created broadly for adolescent and adult populations and therefore may lack generalizability to more specific groups of individuals who

experience trauma, younger children, and older adults. Although there was piloting of some interventions presented within the guide, there was lack of piloting of all elements.

Several strengths existed among *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide*. Strengths included trialing of some interventions presented within the guide, inclusion of an occupational therapy practitioner with expertise in trauma during the needs assessment, and the broad nature of the guide. Trialing of interventions and collaboration with an occupational therapy practitioner with expertise in trauma strengthened the validity of information presented within the guide. In addition, the broad nature of this guide makes it applicable to a broad range of occupational therapy practitioners through its applicability to clients who have experienced a wide range of traumatic events.

Recommendations

This author provides several recommendations to build upon this scholarly project and to enhance product sustainability. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* is broad in nature, and therefore it will be beneficial for future projects or research studies to address more specific populations of individuals impacted by trauma. In addition, interventions within the guide were to be provided on an individual basis and therefore it may be beneficial for future projects to build group interventions for individuals with trauma. Additional gaps in the literature that future projects could address include impacts of interoception on occupation, impacts of the institutional environment on trauma, and impacts of the virtual environment on individuals with trauma.

To ensure product sustainability, this product was provided for occupational therapy practitioners to view and use freely under the condition they abide by the copyright set forth by this author. With this, it is recommended that occupational therapy practitioners continue to implement principles presented within the guide, ensure competency in evaluations and interventions presented within the guide prior to implementation, recommend this guide for fellow occupational therapy practitioners to use, and regularly review the guide to refresh their knowledge.

Implications for Occupational Therapy Practice

Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide has several implications for occupational therapy practice including:

- Trauma is highly prevalent and often comorbid with a wide range of clinical conditions.
- Trauma has the potential to negatively impact not only affective person factors, but also cognitive, physical, sensory, and spiritual person factors. Addressing trauma can therefore have positive impacts on physical, cognitive, affective, sensory, and spiritual aspects of a person.
- Trauma can negatively impact virtually all areas of occupational performance including activities of daily living (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), instrumental activities of daily living (AOTA, 2015; Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), health management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; Smith et al., 2020; U.S. Department of Veterans Affairs, 2022a), sleep (Champagne, 2019; Edgelow et

al., 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022b), education and work (Champagne, 2019; Edgelow et al., 2019; Jellestad et al., 2021; U.S. Department of Veterans Affairs, 2022a), and social participation (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Janssen et al., 2022; Lee et al., 2020; NIMH, 2020; SAMHSA, 2014b; Scoglio et al., 2022).

- Trauma should be addressed within all areas of occupational therapy practice as it is likely present within all areas of practice. When addressed, this can positively impact client outcomes regarding both physical and mental health.
- *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* will provide a framework for occupational therapy practitioners to apply trauma related knowledge to practice and ultimately improve occupational performance outcomes for clients.

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Appendix A: The Product

Appendix A consists of the product of this scholarly project, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide*.

Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide

By: Madison Ertelt

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Introduction

Overview of Trauma

Trauma results from exposure to one or more traumatic events that present an individual with psychological, emotional, and/or physical harm (American Psychological Association [APA], 2019; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014b). Traumatic events may include, yet are not limited to, emotional abuse, physical assault, sexual violence, exposure to war, terrorist attacks, domestic violence, incarceration as a prisoner of war, being kidnapped, torture, motor vehicle accidents, natural or human made disasters, catastrophic medical incidents, witnessing unnatural death, historical traumas (e.g., residential school, ethnic cleansing, forced relocation, religious traumas, destruction of cultural practices), and childhood trauma (American Psychiatric Association, 2013; Manitoba Trauma Informed Education & Resource Centre, 2023). Trauma may be directly or indirectly witnessed and may or may not lead to a diagnosis of a trauma-and-stressor related disorder.

Trauma-and-stressor related disorders, as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*, include reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder (PTSD), acute stress disorder, adjustment disorder, other specified trauma-and-stressor related disorders, and unspecified trauma-and-stressor related disorders (American Psychiatric Association, 2013). PTSD, which is the primary focus of this guide, is characterized by experience of at least one avoidance symptom, one re-experiencing symptom, two arousal and reactivity symptoms, and two cognition and mood symptoms (American Psychiatric Association, 2013). To receive a PTSD diagnosis, an individual must experience these symptoms for greater than one month (American Psychiatric Association, 2013). PTSD is highly prevalent within society, impacting an

estimated 3.6% of adults and 5% of adolescents in the United States per year (National Institute of Mental Health [NIMH], n.d.).

Another diagnosis not mentioned within the *DSM-5* yet highly discussed in the literature is complex PTSD (C-PTSD). C-PTSD was originally proposed in the literature by Dr. Judith Herman in 1988 to describe instances of prolonged trauma (U.S. Department of Veterans Affairs, 2022b). Dr. Judith Herman described C-PTSD as being characterized by the following symptoms: behavioral difficulties, emotional difficulties, cognitive difficulties, interpersonal difficulties, and somatization (U.S. Department of Veterans Affairs, 2022b). Despite being excluded from the *DSM-5*, C-PTSD is of clinical importance regarding its slight difference in symptom presentation as compared to PTSD.

Scope of Guide

The scope of this guide encompasses adolescents through adults and focuses on individuals with PTSD. Considering acute stress disorder may develop into PTSD when symptoms persist for greater than one month, this guide is also relevant for individuals with acute stress disorder (American Psychiatric Association, 2013). In addition, this guide is also applicable to individuals who have experienced trauma yet do not fit all *DSM-5* diagnostic criteria for PTSD. The rationale for inclusion of individuals who do not fit all *DSM-5* diagnostic criteria is attributed to the differing cultural presentations of trauma (Michalopoulos et al., 2020; SAMHSA, 2014b). This guide does not specifically address reactive attachment disorder, disinhibited social engagement disorder, or adjustment disorder. For the remainder of this guide, the term “trauma” will be used throughout to refer to individuals who have experienced trauma yet do not fit *DSM-5* diagnostic criteria, individuals with acute stress disorder, and individuals with PTSD.

Need for Guide

It is imperative for occupational therapy practitioners (OTPs), regardless of practice setting, to address trauma within everyday practice to fully embrace their full scope of practice. The occupational therapy scope of practice includes consideration for “emotional, psychosocial, cognitive, and physical” person factors along with influences of the environment (AOTA, 2021, p. 3). Despite all these factors being included within the occupational therapy scope of practice, some OTPs do not address trauma within everyday practice. In addition, a survey conducted by Holman et al. (2022) of 103 OTPs identified a trend where trauma-informed care (TIC) was not adequately implemented in practice despite being viewed as important. With PTSD impacting an estimated 3.6% of adults and 5% of adolescents in the United States, *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* was developed to provide OTPs with knowledge to address the widespread prevalence and occupational performance deficits seen among clients with trauma (NIMH, n.d.).

Purpose of Guide

The purpose of this guide is to provide guidance on how to address trauma in occupational therapy practice by leading OTPs through the occupational therapy process including evaluation, intervention, and outcomes (AOTA, 2020). This guide includes sections that provide education on trauma-informed care (TIC) principles, impacts of trauma, comorbidities with trauma, evaluations relevant to assessing impacts of trauma, occupation-based interventions for individuals with trauma, and the outcomes process as it relates to trauma. The intended audience for this guide includes all OTPs who would like more guidance on how to address trauma in practice.

Occupation-Based Model

This guide is driven by the person-environment-occupation (PEO) model, which takes into consideration transactions among a person, their environment, and occupations they engage in with an end goal of optimizing occupational performance (Law et al., 1996). PEO views the person as dynamic in their roles, life experiences, and performance attributes. It subsequently describes the person in terms of their physical, cognitive, sensory, affective, and spiritual components. The environment is described according to physical, social, cultural, institutional, and virtual aspects (Baptiste, 2017). Occupations within the model include self-care, productivity, leisure, and sleep (Baptiste, 2017). Occupations may be carried out in numerous environments within the context of various personal roles.

The PEO model is chosen to guide this product for several reasons. This model envisions a dynamic interaction among person, environmental, and occupational aspects throughout the lifespan. Accordingly, trauma impacts individuals of all ages and may present differing occupational challenges and demands throughout the lifespan. The PEO model also indirectly relates to TIC through its consideration of unique life experiences, focus on individual strengths, and consideration for cultural aspects and how they may impact occupational performance. Further explanation of TIC is explained in the following section of this guide.

Trauma-Informed Care

TIC is an approach undertaken by practitioners and organizations that acknowledges the high prevalence of trauma within society, acknowledges the impact of trauma on individuals and groups, ensures the understanding of the signs of trauma, responds to trauma by applying the six principles of TIC, and actively resists re-traumatization of individuals (SAMHSA, 2014a).

According to SAMHSA (2014a), the six principles of TIC include:

1. Safety
2. Trustworthiness & transparency
3. Peer support
4. Collaboration & mutuality
5. Empowerment, voice, & choice
6. Cultural, historical, & gender factors

There are a variety of ways that OTPs can implement TIC into their everyday practice. For individual OTPs, this looks like understanding the signs and symptoms of trauma and applying the six principles of TIC during practice. Definitions of the six principles and specific examples of application to practice are presented in figure one below.

Figure 1

Application of Principles of TIC

Principle	Definition	Application to Practice
Safety	The principle of safety refers to a person feeling physically and emotionally safe within all interpersonal interactions (Trauma Informed, 2021).	<ul style="list-style-type: none">• Utilize sensory elements to promote a sense of safety within the environment (e.g., allowing clients to choose where to sit in the room, use of aromatherapy, allowing clients to choose the level of lighting in a room, etc.). Some sensory elements may

		<p>promote a sense of safety for some individuals and be triggering for others.</p> <ul style="list-style-type: none"> • Ask clients what their preference for eye contact is. Some clients with trauma find eye contact uncomfortable while others do not mind eye contact.
Trustworthiness and Transparency	Trustworthiness and transparency refer to maintaining the trust of individuals through building a culture of honesty and following through on commitments (Trauma Informed, 2021).	<ul style="list-style-type: none"> • Follow through on commitments to clients. • Be honest with clients regarding questions they may ask. For example, if they ask about their progress in occupational therapy give them an honest reflection on how they are doing. Emphasize strengths before discussing areas of improvement. Always end the conversation with emphasis on the client's strengths. • Use reflective listening.
Peer Support	Peer support involves inclusion of peers, or individuals with lived experiences of trauma, into the service delivery process (Trauma Informed, 2021).	<ul style="list-style-type: none"> • Ask clients with trauma for feedback on service delivery. Have them reflect on what aspects of service delivery could be improved regarding TIC and which aspects are working well. • Connect clients to an online support group for trauma survivors.
Collaboration and Mutuality	Collaboration and mutuality ensure that all individuals feel that they are on the same power level. It emphasizes the importance of partnering within the intervention process by allowing the client to decide what services are needed	<ul style="list-style-type: none"> • Explain to the client what the role of occupational therapy is and allow the client to choose what services they want to receive. • Offer choices for interventions during sessions. Allow clients the option to say no to interventions.

and how they are delivered (Trauma Informed, 2021).

**Empowerment,
Voice, and Choice**

This principle involves recognizing and building upon a client's strengths and experiences. It empowers clients by making them feel resilient, promotes shared decision making, and ensures practitioners understand the meaningful goals of the clients they serve (Trauma Informed, 2021).

- Ask a client what their strengths are during the initial evaluation session.
- Allow the client to explain aspects of their lives that are meaningful to them. Incorporate things that are of interest and meaning into intervention sessions.
- Ask the client what their goals are for occupational therapy. Ask how the OTP can best support their success in those goals.

**Cultural,
Historical, and
Gender Factors**

This principle seeks for the practitioner to understand and respond appropriately to cultural, historical, and gender factors. This is done by offering culturally competent services, gender responsive services, and moving past stereotypes and biases that may impact clients (Trauma Informed, 2021).

- Refer to clients by their preferred name and pronouns. Being called by the wrong name and/or pronouns can be triggering of past trauma. This includes calling somebody by their preferred nickname rather than their full name.
- Respect individual beliefs and be open and non-judgmental.
- Be cognizant of religious trauma when approaching conversations surrounding spirituality.

Impacts of Trauma

Individuals with trauma experience deficits among person factors, environmental factors, and occupations. Each of these components are explained in further detail below.

Figure 2

Person Components

Person Component	Impact on Person
Physical	<p>Common physical symptoms that accompany trauma include:</p> <ul style="list-style-type: none">• fatigue• elevated heart rate• rapid breathing• restlessness• upset stomach• headaches/migraines• sweating• somatization• worsening of ongoing medical conditions (SAMHSA, 2014b) <p>Common physiological changes in the brain associated with PTSD include:</p> <ul style="list-style-type: none">• reduced size of the hippocampus• overactivity of the amygdala• reduced size and response of the medial prefrontal cortex (Mann & Marwaha, 2022; Selemon et al., 2019) <p>Trauma may be comorbid with the following physical health conditions:</p> <ul style="list-style-type: none">• dysautonomia (Schneider & Schwerdtfeger, 2020)• autoimmune conditions (Dai et al., 2021; Peruzzolo et al., 2022; Song et al., 2018)• cardiovascular conditions (Fu, 2022; Rosman et al., 2019; Tang et al., 2022)• traumatic brain injury (Iljazi et al., 2020; Loignon et al., 2020)• cancer (Bach et al., 2022; Swartzman et al., 2017)• visual impairments (Brunes et al., 2019; van der Ham et al., 2021)• chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al., 2022)

Cognitive

Individuals with trauma may experience deficits with:

- short-term and working memory (Champagne, 2019; NIMH, 2020; SAMHSA, 2014b)
- attention/concentration (Champagne, 2019)
- executive functioning (Selemon et al., 2019)
- disorientation (SAMHSA, 2014b)
- social cognition (Couette et al., 2020; Janssen et al., 2022)
- cognitive distortions (NIMH, 2020; SAMHSA, 2014b)
- alexithymia (Edwards, 2022)

Sensory

Individuals with trauma may experience changes within all sensory systems and therefore exhibit differing sensory processing patterns. PTSD is associated with a higher tendency towards:

- sensory sensitivity
- sensory avoidance
- low registration (Brown et al., 2019; McGreevy & Boland, 2020)

PTSD is associated with a lower tendency towards:

- sensory seeking behaviors (Brown et al., 2019; McGreevy & Boland, 2020)

Individuals with a history of trauma have also been reported to experience lower levels of interoceptive awareness (Bonaz et al., 2021). Interoception describes an individual's ability to accurately interpret and respond to signals originating from within the body.

Affective

Individuals with trauma may experience the following affective symptomology:

- avoidance
- feeling detached or numb
- irritability or angry outbursts
- guilt and shame
- delusions and hallucinations
- dissociation (SAMHSA, 2014b)
- increased probability of self-injurious behaviors (AOTA, 2015)
- difficulties with emotional regulation (Villalta et al., 2018)

Trauma may be comorbid with the following mental health conditions:

- depression (Mann & Marwaha, 2022; Qassem et al., 2021)
- anxiety disorders (Mann & Marwaha, 2022; Pinciotti et al., 2022; Qassem et al., 2021; Rodríguez & Villegas, 2022)
- bipolar disorder (Hogg et al., 2022)

- substance abuse disorders (Mann & Marwaha, 2022; Renaud et al., 2021; Qassem et al., 2021)
- conduct disorder (Bernhard et al., 2018)
- eating disorders (Convertino & Mendoza, 2023; Ferrell et al., 2019; Rijkers et al., 2019)
- attention deficit hyperactivity disorder (Biederman, 2021; Spencer et al., 2016)
- borderline personality disorder (Jowett et al., 2020; Yuan et al., 2023)
- suicide (Akbar et al., 2022; Mann & Marwaha, 2022)
- schizophrenia (Dallel et al., 2018; Seow et al., 2016)
- neurocognitive disorders (Mann & Marwaha, 2022; Stafford et al., 2022)

Spiritual

- Individuals who have experienced trauma may respond to it through intense use of prayer, attempts to restore faith, feelings of despair regarding humanity, disruption of life assumptions, and loss of self-efficacy (SAMHSA, 2014b).
- Spiritual distress may disrupt intimate relationships, put one at higher risk of suicide, and increase trauma symptoms (Harris et al., 2021).

Figure 3

Environment Components

Environment Component	Relation to Trauma
Physical	<ul style="list-style-type: none"> • Sensory aspects of the physical environment (e.g., particular sounds, smells, or objects) may be triggering for individuals with trauma and lead to avoidance of occupations. • Example: There may be a poor fit among the sensory aspect of a person with trauma, their physical environment, and the IADL occupation of shopping at a grocery store when the smell of a particular food at the store reminds the person of a past traumatic event.
Social	<ul style="list-style-type: none"> • Social support has a positive impact on trauma symptoms (NIMH, 2020; Scoglio et al., 2022; Smith et al., 2020). • Individuals with trauma may avoid social support (Champagne, 2019; SAMHSA, 2014b).

- Individuals that remind a person of past traumatic events (e.g., a person’s past abuser or individuals that look like a person’s past abuser) may be triggering and can lead to avoidance of occupations.

Cultural

- Trauma may present differently among different cultures.
- Reckless/self-destructive behaviors, irritability/angry outbursts, trauma related dreams, family problems, and substance abuse are more common among men with trauma.
- Sleep disturbances, psychological reactions, inability to socialize, feelings of loss, loss of sense of self, suicidal thoughts, and shame are more common among women with trauma.
- Somatization and physical symptoms are more common among non-western cultures (Michalopoulos et al., 2020).

Institutional

- Facilitators for seeking help after trauma include adequate income source, having insurance, and online access (Smith et al., 2020).
- Barriers for seeking help after trauma include cost/affordability, time logistics, and continuity of care (SAMHSA, 2014b; Smith et al., 2020).

Virtual

- Virtual platforms can improve access to treatment (e.g., telehealth).
- Online resources and apps exist for self-help (Lee et al., 2020; SAMHSA, 2014b).
- There is potential for exposure to triggers through social media or television.

Figure 4

Impact on Occupation

Occupation	Impact on Occupational Performance
Self-care	<p>Common areas of occupational performance deficits in self-care are seen among:</p> <ul style="list-style-type: none"> • <u>Activities of daily living (ADLs)</u>: Trauma has the potential to negatively impact all areas of ADLs secondary to experiences with trauma triggers and trauma symptomology. Changes in eating patterns are particularly common (NIMH, 2020; SAMHSA, 2014b; U. S. Department of Veterans Affairs, 2022a).

- Instrumental activities of daily living (IADLs): Trauma can impact several IADLs including care of others (Champagne, 2019), driving (Champagne, 2019; Edgelow et al., 2019; NIMH, 2020), community mobility (Champagne, 2019; Edgelow et al., 2019), financial management (Edgelow et al., 2019), home management (AOTA, 2015; Champagne, 2019), meal preparation (Champagne, 2019; Edgelow et al., 2019), and shopping (Champagne, 2019). Cognition deficits can create safety risks for IADLs such as driving and meal preparation due to impaired attention and experience of dissociation (Champagne, 2019).
- Health management: Trauma can negatively impact symptom and condition management (AOTA, 2015; Berk-Clark et al., 2018; Champagne, 2019; Kearns et al., 2018; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a), communication with the health care system (Berk-Clark et al., 2018; Smith et al., 2020), and physical activity/nutrition management (Berk-Clark et al., 2018; Kearns et al., 2018; NIMH, 2020; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022a).

Productivity

Common areas of occupational performance deficits in productivity are seen among:

- Education: Person factors such as difficulties with attention, dissociation, and hyperarousal can make educational tasks more difficult (Champagne, 2019).
- Work: Trauma can make it difficult to with maintain one’s position at work or transition from the role of a soldier back into civilian life (Champagne, 2019; Edgelow et al., 2019).

Leisure

Common areas of occupational performance deficits in leisure include:

- Leisure: Individuals may experience a lack of motivation or decreased interest in engaging in hobbies that were previously pleasurable (Edgelow et al., 2019).
- Social participation: Social participation difficulties occur secondary to difficulty with interpersonal relationships (Champagne, 2019; Couette et al., 2020; Edgelow et al., 2019; Scoglio et al., 2022), social isolation (Edgelow et al., 2019; NIMH, 2020; Scoglio et al., 2022), difficulty recognizing emotions in others (Couette et al., 2020; Janssen et al., 2022), lack of trust (Couette et al., 2020; SAMHSA, 2014b), avoidance (Champagne, 2019; SAMHSA, 2014b), and

hyperarousal (Scoglio et al., 2022). Intimate relationships may be challenged secondary to aggression towards partners (Couette et al., 2020), avoidance, and fear (Champagne, 2019). Family relationships may be challenged by lack of understanding of PTSD, societal stigma (Edgelow et al., 2019; Lee et al., 2020), anger, impulsivity, and physical/verbal aggression (Couette et al., 2020).

Sleep

Occupational performance deficits in sleep are one of the most common deficits seen among individuals with trauma. Common variables contributing to sleep deficits include:

- nightmares (Champagne, 2019; Maher et al., 2021; SAMHSA, 2014b; Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022a, 2022d)
 - insomnia (Maher et al., 2021; U.S. Department of Veterans Affairs, 2022d)
 - avoidance of sleep (Maher et al., 2021; SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022d)
 - shorter sleep durations (Slavish et al., 2022; U.S. Department of Veterans Affairs, 2022d)
 - talking during sleep (U.S. Department of Veterans Affairs, 2022d)
 - unwanted body movements during sleep (SAMHSA, 2014b; U.S. Department of Veterans Affairs, 2022d)
 - panic awakenings (SAMHSA, 2014b)
 - poor sleep quality (SAMHSA, 2014b; Slavish et al., 2022)
-

Comorbidities

Several comorbidities may be present among individuals with trauma. In certain instances, trauma makes it more likely to experience certain conditions and in other instances certain conditions make it more likely that a person will experience trauma. There are also times in which the association between trauma and co-occurring conditions is not fully understood. The conditions presented below are all described in terms of their association with trauma and potential explanations for the association.

Mental Health Comorbidities

Anxiety Disorders

PTSD is commonly comorbid with several anxiety disorders including social phobia, generalized anxiety disorder, obsessive compulsive disorder (OCD), agoraphobia, and panic disorder (Mann & Marwaha, 2022; Qassem et al., 2021). Social phobia is one of the most frequently experienced anxiety disorders among those with PTSD (Qassem et al., 2021). Additionally, there is also an association between experience of trauma and development of overlapping OCD and PTSD symptoms (Pinciotti et al., 2022; Rodríguez & Villegas, 2022). Prevalence of PTSD within OCD populations is approximately 25% while presence of OCD within PTSD populations is between 31-41% (Rodríguez & Villegas, 2022). Presence of PTSD along with OCD, as compared to experience of OCD alone, is associated with more severe OCD symptoms (Pinciotti et al., 2022; Rodríguez & Villegas, 2022).

Attention Deficit Hyperactivity Disorder

A bidirectional relationship exists between PTSD and attention deficit hyperactivity disorder (ADHD) (Biederman, 2021; Spencer et al., 2016). Biedermann (2021) identified that ADHD typically had an earlier onset than PTSD.

Bipolar Disorder

PTSD is common among individuals with bipolar I and II disorder (Hogg et al., 2022). Among those with bipolar disorder, co-occurrence of PTSD was associated with increased psychotic symptoms (Hogg et al., 2022). Additionally, sexual abuse history correlated with increased rapid cycling of the disorder (Hogg et al., 2022).

Borderline Personality Disorder

Trauma is highly prevalent among those with borderline personality disorder (BPD) (Yuan et al., 2023). Childhood trauma is particularly common among individuals with BPD, with emotional and sexual abuse being significant predictors for development of BPD (Jowett et al., 2020; Yuan et al., 2023). Repeated exposure to childhood emotional or sexual abuse is associated with a higher risk for developing BPD (Yuan et al., 2023). Both BPD and PTSD are associated with elevated emotional dysregulation (Jowett et al., 2020; Yuan et al., 2023).

Conduct Disorder

PTSD prevalence in individuals with conduct disorder or with a history of conduct disorder is high although the reason for this high prevalence is unknown (Bernhard et al., 2018). Females with conduct disorder had a higher prevalence of PTSD as compared to males (Bernhard et al., 2018).

Eating Disorders

PTSD is common among individuals with eating disorders (Convertino & Mendoza, 2023; Ferrell et al., 2019; Rijkers et al., 2019). A common mechanism underlying the association between PTSD and eating disorders may be maladaptive emotional regulation strategies (Rijkers et al., 2019). When PTSD co-occurs with an eating disorder, this is associated with more severe eating disorder symptoms (Convertino & Mendoza, 2023; Rijkers et al., 2019). Those with a

history of childhood trauma have additionally been shown to experience a greater relapse of eating disorder symptoms post-treatment (Convertino & Mendoza, 2023).

Major Depressive Disorder

Depressive disorders are common among individuals with PTSD (Mann & Marwaha, 2022; Qassem et al., 2021). Major depressive disorder is one of the most common comorbidities with PTSD, and it is more prevalent with more severe PTSD (Qassem et al., 2021).

Neurocognitive Disorders

PTSD is associated with an increased risk for developing dementia (Mann & Marwaha, 2022; Stafford et al., 2022). Psychiatric disorders as a whole represent a high-risk group for developing dementia later in life (Stafford et al., 2022).

Schizophrenia

There is a high prevalence of PTSD in individuals with schizophrenia (Dallel et al., 2018; Seow et al., 2016). Presence of PTSD with schizophrenia has been associated with increased positive schizophrenia symptoms, cognitive deficits, higher prevalence of schizophrenia symptoms, and lower levels of daily functioning (Seow et al., 2016).

Substance Abuse Disorders

Substance abuse disorders are common among individuals with PTSD (Mann & Marwaha, 2022; Qassem et al., 2021). Alcohol abuse is particularly common among men with PTSD, impacting an estimated 51.9% (Mann & Marwaha, 2022). When substance abuse disorders and PTSD co-occur, this is associated with more severe symptomology for both conditions (Renaud et al., 2021). Exposure to trauma triggers is associated with an increase in craving intensity (Renaud et al., 2021). Overall, use of substances may be a maladaptive coping strategy used for individuals to reduce intensity of PTSD symptomology.

Suicide

There is a strong association among PTSD and an increased risk for death by suicide, suicide attempts, and suicidal ideation (Akbar et al., 2022; Mann & Marwaha, 2022). There is particularly strong association among PTSD and death by suicide in veteran populations (Akbar et al., 2022).

Physical Health Comorbidities

Dysautonomia

Dysautonomia is an umbrella term for disorders causing dysfunction of the autonomic nervous system (The Dysautonomia Project, 2022). The autonomic nervous system (ANS) is responsible for regulating involuntary bodily functions such as blood pressure, heart rate, respiration, digestion, and temperature (The Dysautonomia Project, 2022). The ANS is separated into two branches, the sympathetic nervous system (SNS) and parasympathetic nervous system (PNS) (Schneider & Schwerdtfeger, 2020). When dysautonomia occurs, the ANS fails to maintain proper equilibrium between the SNS and PNS causing a variety of adverse physiological symptoms (Schneider & Schwerdtfeger, 2020).

One way of measuring ANS functioning is through heart rate variability, which is a parameter based of the variation of the heart from beat to beat (Schneider & Schwerdtfeger, 2020). Higher heart rate variability is a sign of good cardiovascular adaptability within the body while low heart rate variability is indicative of overactivity of the SNS or underactivity of the PNS (Schneider & Schwerdtfeger, 2020). Individuals with PTSD have been found to exhibit higher heart rates and lower heart rate variability which is indicative of ANS dysfunction (Schneider & Schwerdtfeger, 2020).

Cardiovascular Conditions

Individuals with PTSD are at an increased risk for developing cardiovascular disease (Fu, 2022). Fu (2022) proposed that autonomic dysfunction found among individuals with PTSD contributes to this increased risk due to alterations in blood pressure, heart rate, and heart rate variability. Additionally, PTSD has been associated with an increased risk for experiencing early onset transient ischemic attack and ischemic stroke (Rosman et al., 2019). Experiencing a stroke is also associated with an increased risk for experiencing PTSD (Tang et al., 2022). Coronary artery disease is also highly prevalent among individuals with PTSD (Akosile et al., 2018).

Autoimmune Conditions

PTSD is associated with persistent low-grade inflammation in the body and an increased risk for development of autoimmune disorders (Dai et al., 2021; Song et al., 2018; Peruzzolo et al., 2022). Individuals with PTSD have been found to have increased levels of inflammatory markers in the blood including C-reactive protein, interleukin 6, and tumor necrosis factor- α (Hori & Kim, 2019; Peruzzolo et al., 2022). Chronic low-grade inflammation may contribute to development of cardiovascular diseases, cancer, diabetes, rheumatoid arthritis, asthma, chronic obstructive pulmonary disease, cognitive decline, chronic kidney disease, and inflammatory bowel disease (Pahwa et al., 2022). The presence of low-grade inflammation in PTSD may therefore help explain the association between PTSD and several comorbid conditions where inflammation is a contributor. PTSD has also been associated with an increased risk for development of autoimmune skin diseases including psoriasis, lichen planus, alopecia areata, autoimmune bullous diseases, and vitiligo (Dai et al., 2021).

Chronic Pain

There is an association between chronic pain and PTSD (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqueland et al., 2017; Walker et al., 2022). It is unclear to whether chronic pain

makes it more likely for individuals to develop PTSD, PTSD makes it more likely to develop chronic pain, or if experience of a traumatic event makes it more likely to experience both chronic pain and PTSD. Regardless, the high prevalence of chronic pain among individuals with PTSD should be taken into consideration when treating both individuals with chronic pain and PTSD. To account for this during treatment, individuals with chronic pain should be given a screening for PTSD and individuals with PTSD should be given a screening for chronic pain symptoms.

Traumatic Brain Injury

PTSD following a traumatic brain injury (TBI) is highly prevalent, especially among military populations (Iljazi et al., 2020; Loignon et al., 2020). Iljazi et al. (2020) found that 11.0-18.6% of civilian populations developed PTSD within a two-year period following a TBI and 48.2% of military service members with a TBI experienced comorbid PTSD. PTSD and TBI together are associated with a higher risk of experiencing additional psychiatric comorbidities, increased post-concussive symptoms, and poorer treatment responses for additional comorbidities including headaches (Iljazi et al., 2020). PTSD and TBI present with similar deficits in memory, executive functioning, and altered fear responses which may be attributed to similar neural circuitry changes (Loignon et al., 2020). Together, PTSD following a TBI can present as an additional burden on an individual and lead to poorer treatment outcomes. The high prevalence of PTSD among those with TBI should therefore be considered when treating TBI. This can be done through screening for PTSD symptomology following a TBI.

Visual Impairments

There is an association between PTSD and the presence of visual impairments (Brunes et al., 2019; van der Ham et al., 2022). Additionally, the presence of a visual impairment may

impact how PTSD is experienced (Brunes et al., 2019; van der Ham et al., 2022). The association among PTSD and visual impairments may be the result of an increased risk of certain traumatic events due to the visual impairment or vision loss from a traumatic event contributing to increased PTSD symptoms (van der Ham et al., 2022). The presence of a visual impairment may impact one's ability to obtain essential visual elements of a traumatic event and therefore may impact the ability to respond appropriately following a traumatic event (van der Ham et al., 2022). Together, this can lead to increased feelings of helplessness and lack of control (van der Ham et al., 2022). Additionally in those with visual impairments, flashbacks may be more auditory or bodily experiences, avoidance symptoms may be more prominent, and auditory hyperarousal may be more common (van der Ham et al., 2022).

Cancer

Individuals with cancer are shown to experience higher incidences of PTSD as compared to the general population (Bach et al., 2022; Swartzman et al., 2017). PTSD has been found in higher incidences among individuals with breast cancer, melanoma, hematological cancers, and cervical or gynecological cancers (Bach et al., 2022; Swartzman et al., 2017).

Evaluation

The evaluation process includes screening, building an occupational profile, analysis of occupational performance, and synthesis of occupational performance (AOTA, 2020). Areas of the evaluation process are described below.

Screening Process

The purpose of the screening process is to determine the appropriateness of occupational therapy services (AOTA, 2020). When it comes to treating trauma and PTSD, this involves determination of whether treatment for trauma is warranted. This can be done by assessing symptoms related to trauma and by distributing a PTSD screening tool. The purpose of utilizing a trauma screening tool is to determine if interventions for trauma in addition to utilizing a TIC approach are needed.

To begin the screening process, the OT should first use informal observation skills. During informal observation, the OT should observe for common signs or symptoms of trauma. A checklist is provided in figure five below that presents common signs or symptoms of trauma to look for during informal observation. Included within this checklist are PTSD symptoms presented in the *DSM-5* that may signify potential trauma exposure along with additional symptoms of trauma not listed in the *DSM-5* yet culturally relevant (American Psychiatric Association, 2013).

Figure 5

Informal Observation Checklist for Trauma Symptomology

Informal Observation Checklist for Trauma Symptoms

DSM-5 Symptoms

- Mentions exposure to a traumatic event, learned that a traumatic event impacted a close family member or friend, or repeatedly mentions hearing details of traumatic event(s) (American Psychiatric Association, 2013)

Intrusion Symptoms

- Distressing memories or dreams related to a traumatic event
- Dissociation, or acting as if a traumatic event is reoccurring
- Psychological distress or physiological reactions to environmental triggers of trauma (American Psychiatric Association, 2013)

Avoidance Symptoms

- Avoidance efforts relating to environmental triggers of trauma or of feelings, thoughts, or memories that resemble trauma (American Psychiatric Association, 2013)

Cognition and Mood Symptoms

- Difficulty remembering a traumatic event
- Cognitive distortions regarding themselves, others, and/or the world
- Distorted cognition regarding the cause or consequences of a traumatic event
- Persistent negative emotional state or inability to experience positive emotions
- Loss of interest or participation in daily activities
- Feeling detached from others (American Psychiatric Association, 2013)

Arousal and Reactivity Symptoms

- Irritable or has angry outbursts with little provocation
- Hypervigilant or easily startled
- Exhibits reckless or self-destructive behavior (e.g., increased use of drugs or alcohol, impulsivity)
- Difficulties with concentration
- Sleep disturbances (e.g., nightmares, difficulty falling or staying asleep) (American Psychiatric Association, 2013)

Additional Signs/Symptoms of Trauma Exposure Not Listed Within The DSM-5

- Frequent complaints of headaches/migraines
- Detachment from others or isolation
- Complaints of thinking too much
- Loss of appetite
- Mention of issues related to the heart such as chest pain, pressure in the chest, heart palpitations, heartache, weak heart, or a sick heart (Michalopoulos et al., 2020)

Following informal observation, a PTSD screening tool should be used to gain additional information regarding trauma symptoms. Descriptions of potential screening tools for trauma symptoms are presented in figure six below.

Figure 6

Trauma Screening Tools

Trauma Screening Tool	Description
<p>PTSD checklist for <i>DSM-5</i> (PCL-5)</p>	<p><u>Description:</u> The PCL-5 is a 20-question screening tool which asks clients to rate PTSD symptoms on a five-point scale (U.S. Department of Veterans Affairs, 2022c).</p> <p><u>Scoring:</u> The PCL-5 is interpreted by looking at the total symptom severity score from 0-80. A total symptom severity score between 31-33 or greater is indicative of probable PTSD and would warrant additional treatment. The PCL-5 can also be interpreted by summing <i>DSM-5</i> cluster severity scores for each given cluster. The purpose of scoring the assessment this way would be to evaluate which symptom clusters are having the largest impact on the client (U.S. Department of Veterans Affairs, 2022c).</p> <p><u>Benefits:</u> The benefits of this screening tool include its ability to measure change in PTSD symptoms over time, its widespread use, its ability to look at impacts of specific symptom clusters, and its ease in use and interpretation.</p> <p><u>Drawbacks:</u> The PCL-5 assesses solely for <i>DSM-5</i> symptoms of PTSD and therefore may not be culturally relevant for all populations.</p>
<p>Trauma Screening Questionnaire (TSQ)</p>	<p><u>Description:</u> The TSQ is a 10-item symptom screening tool that asks clients to respond yes/no to questions regarding trauma symptomology. It is to be used three to four weeks post-trauma exposure to determine if additional treatment for trauma is warranted (Brewin et al., 2002).</p>

Scoring: Six or greater questions answered “yes” indicates that treatment for trauma is warranted (Brewin et al., 2002).

Benefits: The TSQ is a quick measure to determine whether treatment for trauma is warranted. It assesses for changes in bodily sensations, which makes it more culturally relevant for populations that experience increased incidence of somatic symptoms.

Drawbacks: This assessment is broad in nature and does not measure trauma symptoms on a numerical scale. It may not be as useful to measure change in symptoms over time.

Short PTSD Rating Interview (SPRINT)

Description: The SPRINT is an eight item self-report screening tool that assesses for core PTSD symptoms, somatic symptoms, stress vulnerability, and impact on daily functioning on a five-point scale (Connor & Davidson, 2001).

Scoring: The SPRINT is scored by summing the numeric scores for each question. A score of 14 or greater indicates treatment for PTSD is warranted (Connor & Davidson, 2001).

Benefits: The SPRINT assesses for somatic symptoms, stress vulnerability, and impact on daily functioning in addition to core PTSD symptoms. It also uses a numeric rating scale which makes it useful for assessing change over time.

Drawbacks: The SPRINT may not be as comprehensive as other screening tools as it is only eight questions.

Adverse Childhood Experience (ACE) Questionnaire

Description: The ACE questionnaire measures how many ACEs an individual has experienced within the first 18 years of life. ACE questions ask about prevalence of abuse, household challenges, and neglect (Felitti et al., 1998).

Scoring: The ACE questionnaire is scored by adding up the number of responses the individual answered “yes” to. The higher the number of

ACE's, the higher the risk for future health problems (Felitti et al., 1998).

Benefits: The ACE questionnaire can give indication to whether an individual has experienced childhood trauma and can give insight into the risk for future health problems.

Drawbacks: The ACE questionnaire may not be useful to measure change over time within the adult population.

Building an Occupational Profile

The occupational profile assists in collecting subjective data regarding the client's life experiences, reason for seeking services, strengths and barriers impacting occupational performance, values and interests, habits and routines, priorities, and desired outcomes of services (AOTA, 2020). Data can be collected informally through interview or formally by administering occupational profile assessments. Figure seven below presents potential questions to ask to collect data informally as part of the occupational profile. This figure is not an exhaustive list of questions to be asked; the OTP should use their discretion to add or exclude any questions based on the client and their needs. Additionally, OTPs should take into consideration that some occupations or topics (e.g., eating habits, substance use, relationships, etc.) are sensitive to some clients. To account for sensitivity to topics, OTPs should preface before performing the occupational profile that the client does not have to answer questions if it makes them uncomfortable. Clients should be reassured that they have the right to share as little or as much information as they wish.

Figure 7

Informal Occupational Profile Questions

Question Focus	Sample Questions
Person	Personal Context

- What pronouns do you use?
- How do your previous life experiences impact or shape who you are today?
- What are your strengths?
- What do you value?
- What are your current medical and mental health diagnoses?

Performance Patterns

- What does your daily routine look like?
- What are your current roles (e.g., mom, brother, worker, student, friend, etc.)?

Body Functions

- **Mental Functions**

How is your concentration/attention span?

How is your memory?

Do you experience any mental health conditions?

How are your energy levels?

Do you have a history of any previous mental health hospitalizations?

Do you have any concerns regarding your thinking or cognitive skills?

- **Sensory Functions**

How is your vision?

How is your hearing?

How is your balance?

Do you have any concerns regarding your smell or taste?

Are you sensitive to touch, noise, or temperature sensations?

- **Neuromusculoskeletal Functions**

How is your muscle strength?

Do you experience any pain? If so, describe the pain.

- **Cardiovascular Functions**

Do you have any concerns regarding heart rate or blood pressure?

What concerns do you have regarding heart rate or blood pressure?

Do you experience or have a history of any cardiovascular conditions such as heart disease?

How is your heart health?

- **Respiratory Functions**

How is your respiratory health?

- **Digestive Functions**

How is your digestive health?

- **Endocrine/Metabolic Functions**
Do you experience any conditions impacting your endocrine or metabolic health?
- **Genitourinary/Reproductive Functions**
Do you experience urinary frequency or pain?
Do you have any concerns regarding your urinary or reproductive health?
- **Skin Functions**
Do you experience any conditions impacting your skin?

Environment

- What does your home environment look like?
- Who do you consider as social supports?
- Do you receive any medical or therapy services outside of occupational therapy?
- What environmental factors support or hinder your ability to complete your daily activities?

Occupation

- What daily activities are going well for you?
- What daily activities are you struggling with?
- How is (insert occupation here)?
- What are barriers to engaging in or performing (insert occupation here) well?
- What aspects of your environment support or act as a barrier to performing (insert occupation here)?
- What are your goals or priorities for therapy?
- What do you want to get out of therapy?

In addition to informal interview, OTPs also can utilize formal occupational profile assessments to collect subjective client data. OTPs should use personal discretion to determine whether to utilize formal, informal, or a combination of both methods to conduct the occupational profile. When determining what method to use, OTPs should take into consideration which methods will assist in building the best therapeutic relationship with the client. If the OTP decides that formal occupational profile assessments would be useful, assessments presented in figure eight may be of particular use for individuals with trauma.

Figure 8

Formal Occupational Profile Assessments

Assessment	Description
Canadian Occupational Performance Measure (COPM)	<p><u>Description:</u> The COPM is a self-report measure that asks clients to rate their performance and satisfaction in a variety of occupations (Colquhoun et al., 2012).</p> <p><u>Relevance to Population:</u> The COPM has frequently been used with PTSD samples (Edgelow et al., 2019). It allows OTPs to maintain a client-centered approach while gaining understanding of a variety of occupations that trauma may impact.</p>
HOPE Questionnaire	<p><u>Description:</u> The HOPE questionnaire measures the client's sources of hope, organized religion, personal spirituality and/or practice, and effects on medical care and/or end of life issues (Wengerd, 2022).</p> <p><u>Relevance to Population:</u> Trauma has the potential to impact spiritual health and thus it is important to include spirituality within the occupational profile.</p>
Occupational Self-Assessment (OSA)	<p><u>Description:</u> The OSA is a self-report questionnaire that looks at the client's self-perception of their competence in a variety of occupations along with impacts of the environment on functioning. The OSA is appropriate to administer to those 12 and older and takes approximately 10-20 minutes. It also comes in a short form (University of Illinois at Chicago Board of Trustees, n.d.).</p> <p><u>Relevance to Population:</u> The OSA looks at a client's perception of their competence in a variety of different occupations. It also includes impacts of the environment which also have the potential to impact occupational performance among those with trauma.</p>

Once the OTP collects occupational profile data via informal and/or formal means, potential reasons for the client’s identified problems or concerns should be hypothesized (AOTA, 2020). Following development of hypotheses, analysis of occupational performance is then used to investigate these hypotheses further (AOTA, 2020).

Analysis of Occupational Performance

Analysis of occupational performance involves collecting objective data regarding the person, environment, and occupations. From the occupational profile, OTPs synthesize information to determine what person, environment, and/or occupation factors need to be investigated further. There are several objective assessments that may be relevant for individuals with trauma. OTPs should always consider the clients individual needs, and if necessary comorbid conditions, when selecting assessments to use. Analysis of occupational performance assessments are organized below in terms of the person or occupation components they address. The environment is typically assessed as a part of the occupational profile. Figure 9 presents relevant objective assessments that evaluate the physical, cognitive, affective, and sensory aspects of the person. Figure 10 presents objective, occupation-focused assessments.

Figure 9

Evaluations assessing person factors

Physical Assessments		
Assessment	Description	Relevance for Inclusion in Guide
Numeric Rating Scale (NRS)	The NRS is a verbal rating scale for ages 6 and older that asks the client to indicate their pain intensity on a 0-10 scale with 0 being no pain and 10 being the worst possible pain (Engel, 2019).	PTSD is often comorbid with chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al., 2022). The NRS is quick to administer and can measure change over time.

Verbal Rating Scale (VRS)	The VRS is a verbal rating scale for ages 6 and older that asks the client to select a word from a list of descriptors that describes their pain and rates that pain on a scale of 0-10 (Engel, 2019).	PTSD is often comorbid with chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al., 2022). The VRS provides additional descriptors for the pain in addition to utilizing a numerical rating scale. It is quick and easy to administer.
McGill Pain Questionnaire (MPQ)	The MPQ is a qualitative measure of pain for ages 13 and older that has the client mark where they feel pain, select word descriptors of the pain, and asks about how the pain has changed over time. It takes fewer than 15 minutes to administer and has a short form version (Engel, 2019).	PTSD is often comorbid with chronic pain (Fishbain et al., 2017; Jadhakhan et al., 2023; Siqveland et al., 2017; Walker et al., 2022). The MPQ provides in-depth information on the person's experience of pain and can be used to measure change over time.
Pain Self-Efficacy Questionnaire (PSEQ)	The PSEQ measures self-efficacy in performing a variety of daily activities in the context of chronic pain using a numerical scale (Nicholas, 2007).	The PSEQ relates the impact of chronic pain to a person's daily functioning which makes it more occupation-based and relevant to OTPs.
OMNI Exertion Scale	The OMNI exertion scale asks the client to rate their perceived exertion during an activity on a numerical scale from 0-10 (Wickstrom et al., 2022).	Fatigue can accompany trauma. The OMNI scale is useful to measure fatigue during activities. It is also quick and easy to use.
Multidimensional Fatigue Symptom Inventory-Short Form (MFSI-SF)	The MFSI-SF is a 30 item self-report measure that asks the client to rate general fatigue, physical fatigue, emotional fatigue, mental fatigue, and vigor on a five-point scale (Stein & Jacobsen, n.d.)	Trauma can result in fatigue and the MFSI-SF is comprehensive in measuring multiple aspects of fatigue.
36-Item Short Form Survey (SF-36)	The SF-36 is a self-report quality of life questionnaire for individuals aged 18 and up that measures physical and mental well-being. It assesses eight domain areas including physical functioning, role	Trauma impacts both a person's physical and mental health and the SF-36 (and SF-12) measures both in a condensed manner.

limitations due to physical health, bodily pain, general health, vitality, social functioning, role limitations due to emotional health, and mental health. There is also a shortened version of the assessment that only takes 5-10 minutes called the SF-12 (RAND Corporation, n.d.).

Manual Muscle Testing	This involves testing muscle strength and grading it a scale of 0-5 (Clarkson, 2013).	Trauma is associated with a decrease in physical activity (Berk-Clark et al., 2018). This decrease in activity can weaken muscles and subsequently impact occupational performance.
Range of Motion	This involves measuring the amount of active or passive movement at a joint (Clarkson, 2013).	Trauma is associated with a decrease in physical activity (Berk-Clark et al., 2018). Lack of movement can result in muscle stiffening and/or pain which can decrease range of motion and impact occupational performance.
Headache Impact Test (HIT-6)	This is a six question self-report questionnaire that assesses the impact that headaches have on a client’s daily life functioning (National Headache Foundation, n.d.).	Headaches can commonly occur with trauma and can impact one’s daily life functioning (SAMHSA, 2014b).

Cognitive Assessments		
Assessment	Description	Relevance for Inclusion in Guide
Montreal Cognitive Assessment (MoCA)	The MoCA is a cognition screen to aid in detection of mild cognitive impairment. The MoCA assesses several cognitive domains including short-term memory, visuospatial abilities, executive functioning, attention, concentration, working memory, language, and orientation to time and place (Nasreddine, 2023).	The MoCA addresses several areas of cognitive deficits that may be present among individuals with trauma. There is population data demonstrating its efficacy in psychiatric patients and it takes less than 10 minutes to administer (Nasreddine, 2023).

Saint Louis University Mental Status Exam (SLUMS)

The SLUMS is an 11-question cognition screen for individuals ages 18 and older that identifies cognitive deficits or changes in cognition over time. It assesses several cognitive domains including attention, immediate recall, delayed recall, orientation, numeric calculation and registration, registration and digit span, visual spatial abilities, executive functions, and extrapolation (Saint Louis University, n.d.).

The SLUMS addresses several areas of cognitive deficits that may be present among individuals with trauma. It is short and free to use.

Affective Assessments

Assessment	Description	Relevance for Inclusion in Guide
Patient Health Questionnaire (PHQ-9)	The PHQ-9 is a nine item self-report measure of depressive symptoms (APA, 2020).	PTSD is commonly comorbid with depressive disorders (Mann & Marwaha, 2022; Qassem et al., 2021). This assessment is short, free to use, and assesses for symptoms of depression.
Generalized Anxiety Disorder 7-item (GAD-7) Scale	The GAD-7 is a seven item self-report measure of anxiety symptoms (Spitzer et al., 2006).	PTSD is commonly comorbid with anxiety disorders (Mann & Marwaha, 2022; Qassem et al., 2021). This assessment is short, free to use, and assesses for symptoms of anxiety.
Depression Anxiety Stress Scale-21 (DASS-21)	The DASS-21 is a 21 item self-report questionnaire that measures the severity of depression, anxiety, and stress symptoms. The DASS-21 is scored by adding up the sub scores for depression, anxiety, and stress (Henry & Crawford, 2005). The DASS-21 is free to use and download.	PTSD is commonly comorbid with both anxiety and depressive disorders and is associated with increased stress (Mann & Marwaha, 2022). This assessment is a convenient way to measure all three of these domains.
Columbia Suicide Severity	The C-SSRS is a suicide risk assessment tool that assists in assessing the risk for suicide,	PTSD is associated with an increased risk for death by suicide, suicide attempts, and

Rating Scale (C-SSRS)	severity and immediacy of risk, and level of support the client may need as a result (The Columbia Lighthouse Project, 2016).	suicidal ideation (Akbar et al., 2022; Mann & Marwaha, 2022). The C-SSRS is a convenient and important tool to use to screen for suicidality.
Eating Attitudes Test (EAT-26)	The EAT-26 is a 26 item self-report measure of symptoms of eating disorders (Garner, 2021).	PTSD and eating disorders may be comorbid (Convertino & Mendoza, 2023; Ferrell et al., 2019; Rijkers et al., 2019). This assessment would be of use if the OTP observes that a client has eating behaviors indicative of an eating disorder. It can indicate if the OTP should be doing interventions targeting an eating disorder and if a referral to an eating disorder specialist is warranted.
Adult ADHD Questionnaire: Self-Report Scale (ASRS-v1.1)	The ASRS-v1.1 is a self-report questionnaire for ADHD symptoms in adults (Attention Deficit Disorder Association, n.d.).	PTSD and ADHD are commonly comorbid (Biederman, 2021; Spencer et al., 2016). The ASRS-v.1.1 is helpful in determining whether treatment for ADHD is warranted by the OTP along with PTSD. It can also help indicate whether a referral for an ADHD diagnostic evaluation is warranted.
CAGE and CAGE-AID Questionnaires	The CAGE questionnaire is a short four question screen for alcohol use. The CAGE-AID questionnaire is an adaptation of the CAGE questionnaire to screen for drug use (John Hopkins Medicine, n.d.).	Individuals with PTSD may struggle with substance abuse (Mann & Marwaha, 2022; Renaud et al., 2021; Qassem et al., 2021). Gaining information regarding a client's substance use can help inform intervention and can assist the OTP in making additional referrals.
Perth Alexithymia	The PAQ is a 24 item self-report measure of alexithymia that can be used with adolescents or adults. It	Individuals with PTSD commonly experience alexithymia (Edwards, 2022).

Questionnaire (PAQ)	assesses multiple components of alexithymia across both negative and positive emotions. Higher scores on the assessment are consistent with higher levels of alexithymia (Preece et al., 2018).	When a person experiences high levels of alexithymia, they have difficulty focusing their attention on their emotional states which makes it difficult to identify and communicate those emotional states (Preece et al., 2018). The PAQ is short and free to use.
Emotional Regulation Questionnaire (ERQ)	The ERQ is a 10 item self-report questionnaire that has the client rate responses to questions pertaining to emotional regulation on a seven-point scale (Fetzer Institute, n.d.).	Individuals with PTSD may experience difficulties with emotional regulation (Villalta et al., 2018). The ERQ can assist in measuring changes in emotional regulation abilities over time.
Dissociative Experiences Scale-II (DES-II)	The DES-II is a 28 item self-report questionnaire that assesses experiences of dissociation on a numerical scale (Carlson & Putnam, 1993).	Individuals with PTSD may commonly experience dissociation (SAMHSA, 2014b). The DES-II can assist in measuring dissociative symptom severity over time, which may be difficult to do on a generalized PTSD screen.
Subjective Units of Distress Scale (SUDS)	The SUDS is a measure where clients rate anxiety on a scale from 0-100 with 0 being absolutely calm to 100 being the worst anxiety ever felt. This scale was later condensed to a rating scale from 0-10 (Wolpe, 1969).	Individuals with PTSD commonly experience anxiety (Mann & Marwaha, 2022; Qassem et al., 2021). The SUDS scale may be useful to use during intervention sessions to measure anxiety regarding feared situations over time.

Sensory Assessments

Assessment	Description	Relevance for Inclusion in Guide
Adult/Adolescent Sensory History (ASH)	The ASH is a self-report questionnaire for individuals ages 13-95 that measures sensory modulation, sensory discrimination, postural-ocular skills, praxis, and	Individuals with trauma may experience challenges with their sensory system. The ASH is made to address these challenges and is geared toward the adolescent and adult population.

social/emotional health (SPIRAL Foundation, n.d.).

Multidimensional Assessment of Interoceptive Awareness, Version 2 (MAIA-2)	The MAIA-2 is a 37 item self-report questionnaire of eight dimensions of interoceptive awareness: noticing, not-distracting, not-worrying, attention regulation, emotional awareness, self-regulation, body listening, and trusting. Higher total scores and subscores indicate higher levels of positive interoceptive awareness (University of California San Francisco, 2018).	Interoception describes an individual’s ability to accurately interpret and respond to signals originating from within the body. For example, this may include one’s ability to accurately respond to hunger cues or cues to use the restroom. Trauma has been associated with lower levels of interoceptive awareness (Bonaz et al., 2021).
Body Perception Questionnaire Short Form (BPQ-SF)	The BPQ-SF is a 46 item self-report questionnaire for adolescents and adults that assesses interoception and autonomic reactivity. The assessment takes approximately 5-10 minutes and is also available to complete via the full or very short versions (Cabrera et al., 2018).	ANS dysfunction may be present among individuals with trauma which may in turn impact interoceptive abilities. The ANS innervates several organs and tissues that provide information regarding body awareness (Cabrera et al., 2018).
Adolescent/Adult Sensory Profile	The adolescent/adult sensory profile measures sensory processing patterns and impacts on occupational performance in individuals ages 11 and older (Brown & Dunn, 2002).	Individuals with trauma may experience sensory processing challenges. The adolescent/adult sensory profile is a quick way to gain information regarding sensory processing patterns.

Note: All person aspects of the PEO model were included in analysis of occupational performance except spirituality. Spiritual assessments were incorporated into the occupational profile section of this guide to better capture the client’s individual beliefs and experiences.

Figure 10

Occupation-focused assessments

Assessment	Description	Relevance for Inclusion in Guide
Functional Standardized Touchscreen Assessment of Cognition (FSTAC)	<u>Description:</u> The FSTAC is an assessment that evaluates both functional and cognitive performance abilities through	Individuals with trauma may struggle with cognitive skills as they relate to IADLs and

	14 functional tasks (Cognitive Innovations, 2022). <u>Occupation(s) addressed:</u> IADLs and health management	health management occupations.
Executive Function Performance Test (EFPT)	<u>Description:</u> The EFPT is a performance-based assessment of functional cognition in four IADL tasks including simple cooking, telephone use, medication management, and bill payment. Scoring is based on the level of cueing needed in five executive functioning domains: initiation, organization, sequencing, judgement and safety, and completion of the task (Baum et al., 2019). <u>Occupation(s) addressed:</u> IADLs	Individuals with trauma may struggle with cognition as it relates to IADL tasks. This assessment is performance based and assesses executive functioning which can be impaired in those with trauma (Selemon et al., 2019).
Performance Assessment of Self-Care Skills (PASS)	<u>Description:</u> The PASS is a performance-based assessment that assesses 26 tasks across four domains. These four domains include IADLs focusing on cognition, functional mobility, IADLs with a physical emphasis, and ADLs. Clients are rated on their independence, safety, and adequacy in tasks (Rogers et al., 2019) <u>Occupation(s) addressed:</u> ADLs and IADLs	Cognition commonly impacts IADL performance in those with trauma and physical health may be an additional barrier to completing ADL and IADL tasks as well.
Weekly Calendar Planning Activity (WCPA)	<u>Description:</u> The WCPA is a performance-based assessment of functional cognition that assesses executive functioning	The WCPA is appropriate for individuals who are independent in ADLs yet may continue to struggle with IADLs. It is appropriate

and use of cognitive strategies (Lussier et al., 2019)
Occupation(s) addressed:
IADLs

to administer if the client is oriented and can sustain attention for 10 minutes (Lussier et al., 2019). Considering orientation and attention may be impaired in those with trauma, the OTP should use their clinical judgement to determine if this assessment is appropriate for their client.

Assessment of Motor and Process Skills (AMPS)

Description: The AMPS is a performance-based measure of motor and process skills as they relate to ADL performance. It measures physical effort, efficiency, safety, and need for assistance (Griswold, 2019).
Occupation(s) addressed:
ADLs

The AMPS may be used with children and adults and may be used with individuals that have mental health diagnoses (Griswold, 2019). Individuals with trauma may struggle with ADLs and the AMPS can help determine which factors are impacting performance in these tasks.

Pittsburgh Sleep Quality Index (PSQI)

Description: The PSQI is a sleep questionnaire that measures subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, daytime dysfunction on a numerical scale. It also gives a global PSQI score indicating severity of sleep disturbances. This assessment can help determine which components are having the largest impacts on sleep and can measure severity of sleep difficulties (Pierce & Summers, 2019).
Occupation(s) addressed:
sleep

Sleep difficulties are common among PTSD and have the potential to impact other occupations that a person may engage in. The PSQI can measure severity of sleep disturbances over time and takes less than five minutes to administer (Pierce & Summers, 2019).

Synthesis of Evaluation Process

Synthesis of the evaluation process involves synthesizing information obtained in the occupational profile and analysis of occupational performance to determine client priorities, hypothesize supports and hindrances to occupational performance, consider the role of support systems and contexts to the intervention process, select outcomes desired from intervention, create collaborative goals with the client, and determine ways to measure progress throughout the intervention process (AOTA, 2020). When evaluating clients with trauma, this would include synthesizing client records, occupational profile information, analysis of occupational performance assessments to determine client centered goals targeting occupational performance.

Intervention

There are several types of intervention approaches that have shown efficacy for trauma. Interventions however will vary widely depending on the person, their experience of trauma, and what occupational performance deficits they are experiencing. Due to the wide variety of interventions available, it is helpful for OTPs to have an intervention toolbox to draw from when deciding what interventions to use with clients. Figure 11 below demonstrates interventions that have shown efficacy in treating individuals with trauma. Emerging interventions that are being used for trauma include application of polyvagal theory (Porges, 2022) and trauma informed Bal-A-Vis-X (Bal-A-Vis-X, Inc., 2023).

Figure 11

Occupational Therapy Trauma Intervention Toolbox

Occupational Therapy Trauma Intervention Toolbox

- Sensory-based interventions (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O’Sullivan & Fitzgibbon, 2018)
- Improving performance in meaningful occupations (Edgelow et al., 2019)
- Cognitive behavioral therapy (CBT) (APA, 2019; Champagne, 2019; Lee et al., 2022; Maher et al., 2021; SAMSHA, 2014b; Winders et al., 2019)
- Dialectical behavioral therapy (Lee et al., 2022; Rozek et al., 2021)
- Behavioral activation (Etherton & Farley, 2022)
- Cognitive remediation/use of cognitive strategies (Barco et al., 2019; Zare et al., 2022)
- Skills training (Champagne, 2019; Edgelow et al., 2019; Scoglio et al., 2022)
- Trauma-informed yoga (Harris et al., 2021; Lee et al., 2022)
- Virtual reality exposure therapy (Deng et al., 2019; Knaust et al., 2020; Lee et al., 2022)
- Prolonged exposure (APA, 2019; Lee et al., 2022; Rozek et al., 2021)
- Imagery rehearsal therapy (Lee et al., 2022; Maher et al., 2021)
- Improving self-compassion (Winders et al., 2019)
- Emotional freedom techniques (Church et al., 2022)
- Mind-body techniques (Lee et al., 2022)
- Biofeedback (Panisch & Hai, 2020)
- Expressive therapies (Edgelow et al., 2019)
- And more depending on the client and their needs!

Case scenarios to demonstrate several of the interventions in figure 11 are presented below. Case scenarios target five areas of occupations: ADLs, IADLs, health management, sleep, and social participation.

Activities of Daily Living

Case Scenario 1

Bobby is a 16-year-old male (he/him) who is currently struggling with personal hygiene. Bobby lives in a home with his mom and he has a history of childhood trauma. Bobby's trauma history includes the divorce of his parents one year ago, emotional abuse from dad, and fighting among mom and dad when they were still together. Bobby additionally struggles with major depressive disorder and generalized anxiety disorder. Bobby's mom sought out occupational therapy for Bobby due to his past trauma history, difficulties completing personal hygiene tasks, sensory sensitivities, and motivation.

During the initial session, Bobby states he is having difficulty showering due to motivation and "not liking water touching my skin". Bobby also has also been brushing his teeth two times a week at most, noting "I hate the feeling of brushing my teeth". The OTP administers the ASH, DASS-21, and PCL-5. The ASH identifies definite deficits in tactile modulation, definite deficits in tactile-related hygiene and discomfort with water, and definite deficits in being withdrawn/depressed and anxious. Bobby's DASS-21 score indicates severe depression, moderate anxiety, and severe stress. Bobby scores a 45 on the PCL-5 which indicates that PTSD treatment is warranted. Using the PEO model, the OTP found the following transactions presented a poor fit for Bobby:

- Transaction: sensory (person) x physical (environment) x personal hygiene (occupation)
Explanation: Bobby's over-responsivity to tactile-related hygiene in the physical environment of the bathroom makes it difficult to brush his teeth and shower.
- Transaction: affective (person) x personal hygiene (occupation)

Explanation: Bobby's low motivation makes it difficult to maintain a daily routine and complete personal hygiene tasks.

The OTP is now preparing interventions for next session that focus on addressing ADL performance. Below are interventions planned for the next one-hour session. Before beginning interventions, the OTP ensures that the treatment environment promotes a sense of safety for Bobby. This involves the OTP asking Bobby if he prefers the door open or shut, turning on music if desired, providing the option of a weighted blanket, and reassuring Bobby that today's session is meant to be collaborative.

Intervention 1a: Building an ADL Routine

The following transaction informed the creation of this intervention:

- Affective (person) x personal hygiene (occupation): Bobby's low motivation makes it difficult to maintain a daily routine and complete personal hygiene tasks.

A series of steps were taken to help Bobby re-engage in an ADL routine.

1. The OTP began session by educating Bobby on how engagement in healthy habits and routines can improve daily structure and promote a sense of stability.
2. The OTP then went through and asked about what motivates Bobby to complete self-care activities. Bobby responded with "I don't know, nothing".
3. The OTP then provided Bobby with a daily activity checklist (see figure B1 in appendix B). The OTP educated Bobby on how to fill out the daily activity checklist and then had him do this.
 - a. Bobby was able to come up with activities to put in the checklist including getting dressed, eating, and doing his homework. The OTP provided Bobby with min

verbal cues to identify further activities such as showering, brushing his teeth, cleaning his room, doing a relaxing activity, and doing laundry.

4. The OTP then instructed Bobby to fill out the bottom part of the daily activity checklist worksheet. This portion of the worksheet asked Bobby “What is motivating me to complete these activities?”. The OTP documented the level of cueing needed to assist Bobby in brainstorming things that motivated him for daily activities. Bobby was able to come up with two motivators for daily activities after receiving mod verbal cues from the OTP. He indicated that “I feel good about myself after I do these things” and “I feel more put together” as two things that motivate him to complete his daily activities.
5. Following this, the OTP instructed Bobby to take this checklist home and put it somewhere he would visually see it, such as the fridge or his bathroom mirror. The OTP educated Bobby to put a check mark on the corresponding day after doing each activity. The OTP emphasized that certain IADL tasks such as laundry do not need to be completed everyday however should be completed at least once a week.
6. The OTP indicated that Bobby should bring the checklist into session next week for them to review progress together.

Evidence for intervention. Improving performance in meaningful occupations is an effective intervention approach for treating occupational performance deficits seen among individuals with trauma (Edgelow et al., 2019). In addition, use of behavioral activation tools, such as a checklist, has been found to be effective for individuals with PTSD (Etherton & Farley, 2022).

Intervention 1b: Addressing Tactile Over-Responsivity with ADLs

The following transaction informed the creation of this intervention:

- Sensory (person) x physical (environment) x personal hygiene (occupation): Bobby's over-responsivity to tactile-related hygiene in the physical environment of the bathroom makes it difficult to brush their teeth and shower.

A series of steps were taken to address tactile over-responsivity with ADLs:

1. The OTP began with education on the importance of the sensory system in regulating behavior and emotions.
2. The OTP then provided recommendations for how to reduce tactile over-responsivity with brushing teeth and showering.
 - a. Bobby indicated that he disliked brushing teeth due to the feeling of the toothbrush and the texture of the toothpaste in his mouth. The OTP provided recommendations for finding a toothbrush with softer bristles and a toothpaste with a texture that he tolerated. The OTP had soft bristle toothbrushes and a variety of different trial sized toothpastes on hand. The OTP had Bobby try out a soft bristled toothbrush during session with a new toothpaste. Bobby verbalized enjoying this new toothbrush and toothpaste.
 - b. The OTP then provided recommendations for reducing tactile over-responsivity in the shower. The OTP recommended Bobby get a handheld shower head with different settings to provide him with control over the tactile input. The OTP also recommended Bobby have a towel and clothes nearby to avoid drastic temperature changes when getting out of the shower. OTP then gave recommendations for showering at a comfortable temperature, using preferred shampoo or conditioner, and wearing a shower cap on days he did not wish to wash his hair.

3. The OTP ended session by creating a collaborative plan with Bobby as to what sensory strategies he would be willing to try to improve brushing teeth and showering. Bobby identified that he would try out the new toothbrush and toothpaste, will change settings on his hand-held shower head, and will keep a towel and clothes near the shower to avoid getting cold. To improve follow through with recommendations, the OTP had Bobby write these strategies on a sticky note to place on his bathroom mirror.

Evidence for intervention. Sensory-based interventions have demonstrated efficacy with individuals with PTSD and can assist with regulating overwhelming stimuli that impact occupational performance (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O’Sullivan & Fitzgibbon, 2018). In addition, having the client brush his teeth during the intervention session was a way of improving performance in meaningful occupations, which has also shown efficacy for individuals with PTSD (Edgelow et al., 2019).

Instrumental Activities of Daily Living

Case Scenario 2

Kerri is a 37-year-old female (she/her) who has been struggling with PTSD for 10 years after a traumatic incident in the grocery store involving a physical assault. Ever since then, Kerri avoids the grocery store and struggles to cook meals at home. As a result of this, Kerri has forgotten how to cook meals, which further inhibits her ability to cook at home. Kerri is seeking occupational therapy services to address these functional deficits.

At Kerri's initial appointment, the OTP administers the PCL-5 which indicates further trauma treatment is warranted. The OTP follows this by asking informal occupational profile questions then administering the SLUMS. The SLUMS identified deficits with attention, delayed recall, and executive functioning. The OTP explains then sends home the ASH for Kerri to fill out at home then bring back next session. The ASH identified that Kerri has definite deficits in visual modulation, auditory modulation, and tactile modulation. In addition, Kerri feels "jumpy" when she sees individuals that resemble the person that physically attacked her at the grocery store. As a result of this, Kerri avoids the grocery store due to feeling overwhelmed. Using the PEO model, the OTP found the following transactions presented a poor fit for Kerri:

- Transaction: cognitive (person) x physical (environment) x meal preparation (occupation)
Explanation: Meal preparation is difficult for Kerri due to distractions within the physical environment along with difficulties with planning, organization, and attention.
- Transaction: sensory (person) x physical (environment) x shopping (occupation)
Explanation: Going grocery shopping is overwhelming for Kerri due to difficulties with auditory and visual modulation.
- Transaction: affective (person) x social (environment) x shopping (occupation)

Explanation: Kerri avoids grocery shopping out of fear that she will see the individual who physically attacked her.

The OTP is now preparing interventions to address Kerri's IADL deficits with meal preparation and shopping. The OTP ensures that Kerri feels safe within the treatment environment by building repertoire and altering any sensory elements within the environment as needed.

Intervention 2a: Addressing Meal Preparation Difficulties

The following transaction was considered while developing this intervention:

- Cognitive (person) x physical (environment) x meal preparation (occupation)

The OTP undertook several steps to address Kerri's meal preparation difficulties. These steps included:

1. The OTP began by collaboratively brainstorming simple recipes for Kerri to begin cooking. Together they brainstormed eggs, oatmeal, soup, cold sandwiches, and grilled cheese. The OTP explained to Kerri that it will be easier to start with simple recipes and then progress to more complex ones. Kerri decided that she wanted to cook canned soup.
2. The OTP and Kerri went to the kitchen on-site and began a meal preparation task. The OTP documented the level of cueing provided to Kerri throughout the task. The OTP began by asking Kerri, "where are you going to begin with this task?" and "what challenges do you anticipate during this task?". Kerri responded that she would begin with reading the directions and anticipates that she will have difficulty paying attention throughout the task.

3. The OTP then asked Kerri what strategies she could use to assist in maintaining her attention throughout the task. Kerri had difficulty coming up with strategies so the OTP recommended use of a timer during the task that will remind her to check on her soup.
4. Kerri was able to cook the soup with mod verbal cues from the OTP. After cooking, the OTP talked about strategies to use at home during cooking tasks such as use of a timer and beginning to cook simple recipes that do not require multitasking. The OTP explained that they can eventually work up to multi-step meal preparation tasks as a goal once Kerri feels comfortable with simple-step recipes.

Evidence for intervention. Improving performance in meaningful occupations is an effective intervention strategy for individuals with trauma (Edgelow et al., 2019). In addition, the OTP utilized a strategy-training approach to address deficits in functional cognition (Barco et al., 2019). This consisted of recommending the use of an auditory aid such as a timer to address cognition deficits impacting occupational performance.

Intervention 2b: Managing Sensory Overload in the Grocery Store

The following transaction was considered while developing this intervention:

- Sensory (person) x physical (environment) x shopping (occupation): Grocery shopping is overwhelming for Kerri due to difficulties with auditory and visual modulation.

The OTP undertook several steps to address sensory sensitivities impacting Kerri's ability to grocery shop. These steps included:

1. The OTP began by explaining Kerri's sensory assessment results. The OTP explained that Kerri's feelings of anxiety in the grocery store may be due to difficulties with modulating auditory and visual input. Kerri explained to the OTP that going to the grocery store is anxiety provoking due to the "sensory overload".

2. The OTP provided Kerri with recommendations for reducing auditory and visual input within the grocery store to assist in helping her feel calmer while shopping.
 - a. The OTP provided recommendations for managing excess auditory input. The OTP provided recommendations such as noise cancelling headphones, earplugs, going to the store at times that aren't busy, and shopping at smaller stores that are not as busy.
 - b. The OTP then provided recommendations for managing excess visual input. The OTP provided recommendations for going to the grocery store at times of the day that are not as busy, shopping at smaller stores that are not as busy, using a grocery store app to see where items in the store are ahead of time, and wearing a hat or sunglasses to block out excess visual input.
3. The OTP had Kerri identify which strategies she would like to try. Kerri identified interest in using noise cancelling headphones, wearing a hat, and shopping in the morning. The OTP collaboratively set the goal for next session for Kerri to try these strategies then report back on how they worked for her.
4. To assist Kerri in remembering the strategies she identified wanting to try, the OTP had her write them on a sticky note then place that sticky note somewhere she will remember to look at it.

Evidence for intervention. Sensory-based interventions have demonstrated efficacy with individuals who experience PTSD (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O'Sullivan & Fitzgibbon, 2018). The OTP used sensory-based interventions that targeted modulation of Kerri's visual and auditory systems.

Intervention 2c: Addressing Avoidance of Grocery Shopping

The following transaction was considered while developing this intervention:

- Affective (person) x social (environment) x shopping (occupation): Kerri avoids grocery shopping out of fear that she will see the individual who physically attacked her.

The OTP took several steps in addressing Kerri's avoidance of grocery shopping. These steps included:

1. The OTP began by identifying situations Kerri avoids. Kerri identified that she avoids grocery shopping out of fear of running into the person who attacked her. The OTP had Kerri rate the anxiety she felt when thinking about grocery shopping on the SUDS scale from 0-10. Kerri identified her anxiety to be a 1/10.
2. The OTP explained to Kerri that she wanted to start exposure therapy with her if she felt she was ready for it. The OTP explained to Kerri that they would begin with small exposures to feared stimuli then progress. Kerri said that she would be willing to try this.
3. The OTP and Kerri made a fear hierarchy ladder related to situations at the grocery store. The OTP provided Kerri with a worksheet for this (see figure B2 in appendix B). Kerri identified activities from least to most feared. From least to most, Kerri identified the following activities on her fear hierarchy: thinking about the grocery store (1/10), making a grocery list (1/10), driving to the grocery store with a friend (3/10), going to the grocery store with a friend for 10 minutes (5/10), going to the grocery store with a friend for 30 minutes (6/10), going to the grocery store alone for 10 minutes (8/10), and going to the grocery store alone for 30+ minutes (10/10).
4. The OTP made a plan with Kerri to gradually expose her to these fears to address her avoidance behaviors. She educated Kerri that they would begin with the least feared and progress to most feared. They started by addressing thinking about the grocery store for

two minutes and following this the OTP had Kerri record her anxiety levels on her worksheet. The OTP then offered Kerri a break and led her through a short mindfulness video. Kerri then progressed to writing out a grocery list for five minutes.

5. Following these exposure exercises, the OTP gave Kerri homework to continue progressing on her fear hierarchy by driving to the grocery store with a trusted friend and recording anxiety on her worksheet.
6. To end session, the OTP did biofeedback for 10 minutes via a virtual reality system.

Evidence for Intervention. Exposure therapy has demonstrated efficacy in individuals with PTSD (APA, 2019; Lee et al., 2022; Rozek et al., 2021). The OTP had Kerri engage in exposure therapy by helping her construct a fear hierarchy, rating her fears, and then gradually exposing her to those fears. Use of mind-body interventions such as mindfulness have also shown to be effective for PTSD (Lee et al., 2022). Lastly, biofeedback has shown efficacy with PTSD (Panisch & Hai, 2020).

Health Management

Case Scenario 3

Holly is a 24-year-old female (she/her) who has been struggling with PTSD for approximately seven years. Holly has recently come out of a long-term relationship in which she experienced emotional, physical, and sexual abuse from her partner. In addition, Holly received a diagnosis of postural orthostatic tachycardia syndrome (POTS) within the last year and has struggled with generalized anxiety disorder since she was a teenager. Before being diagnosed with POTS, Holly had been told by healthcare professionals that her symptoms were “due to anxiety” or “all in your head” for three years despite frequent episodes of fatigue, fainting upon standing, and a fast pulse. Whenever she had gone to a medical professional, they often attributed her symptoms to her anxiety and told her that she needs to manage it better.

Holly is now seeing an OTP and is seeking help managing her PTSD and POTS symptoms. She states that she has been struggling with symptom and condition management and is currently working to improve her ability to regularly attend and advocate for herself at healthcare visits. Holly has been avoiding medical professionals from fear that her concerns will be dismissed and has not seen a healthcare professional since her POTS diagnosis. Due to this, Holly’s POTS is not well managed, and she continues to experience fatigue, exercise intolerance, and lightheadedness. Holly attributes her avoidance of medical appointments to difficulties with planning, time management, short-term memory, and nervousness. She also avoids leaving her home for anything besides work due to fear that she will run into her ex-boyfriend within the community.

At her initial evaluation appointment, the OTP administered the PCL-5 in which Holly scored a 56 indicating that treatment for PTSD is warranted. The OTP then administered the

DASS-21 to evaluate anxiety and depression, the NRS to evaluate pain, and the MoCA to examine cognition. The OTP also assigned Holly the adolescent/adult sensory profile to fill out on her own and bring back next session. Holly's DASS-21 score indicates moderate anxiety and depression, numerical rating scale indicates heightened pain, and MoCA score indicates mild cognitive impairment. Next session, the OTP determined via the adolescent/adult sensory profile that Holly ranks high on sensory sensitivity. At the next session, the occupational therapist also administered the WCPA due to Holly's concerns over time management and managing medical appointments. Holly scored low on the WCPA, indicating functional cognitive deficits related to IADL performance and managing schedules. Using the PEO model, the OTP found that the following transactions presented a poor fit for Holly:

- Transaction: Cognition (person) x health management (occupation).
Explanation: Holly has difficulty attending medical appointments due to difficulties with planning, time management, and short-term memory.
- Transaction: Affective (person) x social (environment) x health management (occupation)
Explanation: Holly has difficulty attending medical appointments from fear that she will run into her ex-partner within the community.
- Transaction: Cognitive (person) x social (environment) x health management (occupation)
Explanation: Holly has difficulty advocating for herself at medical appointments as she often forgets what concerns to bring up to her doctor.
- Transaction: Affective (person) x social (environment) x health management (occupation)
Explanation: Holly has difficulty being assertive of her needs at medical appointments due to feelings of nervousness and fears of being dismissed by healthcare professionals.

- Transaction: Sensory (person) x physical (environment) x health management (occupation)

Explanation: Holly avoids medical appointments because she gets overstimulated waiting in the lobby. She finds that the auditory input is particularly over-stimulating.

The occupational therapist is now preparing an intervention for next session that focuses on planning and advocating at healthcare visits to target symptom and condition management. Below are interventions planned for next session. The occupational therapist plans a one-hour session, expecting to use at least two of the interventions next session as time permits. The occupational therapist will work at the clients pace however, and if needed one of the three interventions can be completed in a future session. Before beginning interventions, the OTP ensures that the treatment environment promotes a sense of safety for Holly. This involves the OTP asking Holly if she prefers the door open or shut, allowing her to choose where to sit, turning on music if desired, providing the option of a weighted blanket, and reassuring Holly that the session today is meant to be collaborative.

Intervention 3a: Planning for Healthcare Visits

The following transaction was considered while developing this intervention:

- Cognition (person) x health management (occupation): Holly has difficulty attending her medical appointments due to difficulties with planning, time management, and short-term memory.

A series of steps were completed to assist Holly to plan ahead for healthcare visits. The following are steps that the OTP took to assist Holly.

1. The OTP instructed Holly to first obtain a monthly calendar or planner that can be used to track appointments. For the time being, the OTP printed out an online calendar for the next month to begin the activity.
2. The OTP focused on reducing the cognitive workload of scheduling appointments by breaking the task up into smaller chunks.
 - a. The OTP had Holly make a list of appointments that she needs to attend within the next two months. If Holly was not able to brainstorm a list of appointments, the occupational therapist would have given her cues to help her recall common appointments she may need to attend. The cues would start out as indirect verbal cues, such as “what appointments do you need to attend within the next two months that pertain to your health?”. The cues would then progress to direct verbal cues, such as “do you think you need to schedule an appointment with your primary care doctor within the next two months?”. The OTP documented the level of cueing needed to brainstorm a list.
 - b. Once a list had been brainstormed, the OTP had Holly break the list down into two categories. The two categories included: important and urgent (need to do within two weeks) and important but not urgent (should complete within next one to two months). The OTP recorded how many verbal cues (min, mod, or max) Holly needed to categorize appointments and documented this. The OTP only provided cues when needed. See Figure B3 in appendix B for a visual representation of the categorized list the OTP had Holly complete.
3. Once Holly had her list categorized, the OTP had her schedule her appointments. The OTP instructed Holly to put a check box next to each item on her list. The OTP then

provided Holly education on how to schedule an appointment either online or by calling the clinic. The OTP then had Holly start with scheduling the urgent appointments first, one at a time, and then once completed had her schedule the important but not urgent appointments. Once an appointment was scheduled, Holly was instructed to put a check mark in the corresponding box next to it. Throughout the task, Holly was also instructed to take a short break in between scheduling every two appointments to avoid cognitive fatigue.

4. The last step of the intervention involved the OTP providing Holly education on how to put a reminder system in place for her scheduled appointments. The OTP gave Holly options for different reminder systems. Some of these suggestions included use of a behavior activation tool on her cell phone to remind her or use of the medical clinic's text and email notification system.

Evidence for intervention. Since Holly experienced deficits in functional cognition and was aware of her deficits, a strategy-training approach was appropriate to use to overcome cognitive limitations that impacted occupational performance (Barco et al., 2019). The OTP specifically utilized the concept of domain-specific strategies by teaching Holly to brainstorm a list of appointments, record them in a calendar, and set reminders for appointments (Barco et al., 2019). In addition, occupation-based interventions including skills training and improving performance in meaningful occupations have been found to be effective for individuals with PTSD (Champagne, 2019; Edgelow et al., 2019).

Intervention 3b: Self-Advocacy During Healthcare Visits

The following transactions were used when developing this intervention:

- Cognitive (person) x social (environment) x health management (occupation): Holly has difficulty advocating for herself at medical appointments as she often forgets what concerns to bring up to the doctor.
- Affective (person) x social (environment) x health management (occupation): Holly has difficulty being assertive of her needs at medical appointments due to feelings of nervousness and fears of being dismissed by healthcare professionals.

A series of steps were completed to assist Holly in learning self-advocacy skills for healthcare visits. These included:

1. The OTP began by talking with Holly about points that she wished to bring up with her healthcare providers. After discussing this, the OTP then challenged Holly's short-term memory abilities and had her write these points down on a piece of paper.
2. The OTP provided Holly the recommendation of obtaining a journal to write down points she wished to bring up at medical appointments. To stay organized, the OTP also recommended consistently using the one journal for only medical appointment notes and writing down the date of the medical appointment that each of the points correspond to.
3. To remember to bring the journal to medical appointments, the OTP recommended adding a reminder note to bring the journal along to appointments. For example, if Holly had an appointment scheduled for April 27th and had a reminder set on her phone for this, the OTP would instruct Holly to add an additional note to that appointment reminder to bring her journal.
4. The OTP then educated Holly on assertive communication skills. After the education, the OTP had Holly role play bringing up her points that she wished to bring up to healthcare providers using assertive communication skills. The OTP provided Holly with a printed

list of assertive communication tips to begin (see figure B4 in appendix B for an example of this list). As sessions progressed, the OT graded the task up to challenge Holly to use assertive communication skills to communicate her points without the visual aid.

Evidence for intervention. Skills training is an effective occupational therapy intervention approach for improving occupational performance in those with PTSD (Edgelow et al., 2019). This intervention addresses performance deficits in communication skills via assertiveness training to improve occupational performance in health management.

Intervention 3c: Addressing Avoidance Surrounding Healthcare Visits

The following transactions were used when developing this intervention:

- Affective (person) x social (environment) x health management (occupation): Holly has difficulty attending medical appointments from fear that she will run into her ex-partner within the community.
- Sensory (person) x physical (environment) x health management (occupation): Holly avoids medical appointments because she gets overstimulated waiting in the lobby. She finds that the auditory input is particularly over-stimulating.

A series of steps were taken in addressing Holly's avoidance of healthcare visits. These included:

1. The OTP provided Holly with education on occupational therapy's role with managing the sensory system. The OTP then provided Holly with recommendations for reducing arousal via her sensory system including using loop earplugs while waiting in the clinic or waiting in the car and having the clinic give her a call when it is time for her appointment.
2. The OTP then focused on providing Holly with coping skills she could use if she encountered trauma triggers while out into the community. The OTP began by utilizing a

CBT approach to manage maladaptive thought patterns regarding going out in the community.

- a. The OTP provided education on CBT and how thoughts, behaviors, and emotions all impact each other. The OTP then had Holly identify maladaptive thoughts/beliefs related to her trauma and going out in the community. Holly identified “If I go out in the community, I will see my ex and I will have a panic attack”. The OTP had Holly then identify how this belief impacted her behavior and emotions. Holly verbalized that this caused her to avoid her appointments and made her feel very anxious.
 - b. The OTP then challenged Holly to identify evidence against this belief and talked with her about how past trauma may have impacted this belief. The OTP then provided verbal cues to assist Holly in identifying a new thought. The new thought proposed was “it is a big community, and I am not likely to run into my ex. If I did run into him, I am still safe as I am in a public place”. Holly then identified that this new belief may assist her in attending appointments and makes her feel less anxious.
 - c. To reinforce Holly’s feelings of safety within the community, the OTP provided Holly with strategies she could use if she did encounter a trauma trigger. The OTP educated Holly on sensory grounding strategies and use of affirmations such as “I’m safe”.
3. To end session, the OTP educated Holly on a self-holding exercise to decrease physiological arousal within her body.

Evidence for intervention. Sensory-based interventions have demonstrated efficacy in individuals with PTSD and help improve occupational performance by reducing overwhelming stimuli (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O’Sullivan & Fitzgibbon, 2018). The self-holding strategy the OTP had Holly try was a form of a sensory-based strategy. CBT has also demonstrated efficacy in individuals with PTSD (APA, 2019; Champagne, 2019; Lee et al., 2022; Maher et al., 2021; SAMSHA, 2014; Winders et al., 2019).

Sleep

Case Scenario 4

Marvin is a 50-year-old male (he/him) that has been struggling with sleep for the past three months. His struggles with sleep began after experiencing a traumatic incident after which he was diagnosed with PTSD. Marvin does not wish to elaborate on this incident however does mention that he is a veteran. He is now seeking occupational therapy to address his sleep concerns.

At the initial appointment, the OTP administers the PCL-5 to assess trauma symptoms which indicated that PTSD treatment was warranted. She then administered the CAGE questionnaire, ASH assessment, and the PSQI. The CAGE questionnaire identified that Marvin may be struggling with alcohol abuse and the ASH identified definite modulation deficits in Marvin's auditory system. The PSQI identified that Marvin is experiencing difficulties with sleep. He specifically identified through the assessment that he had trouble falling asleep and as a result often drank alcohol as a sleep aid. Additionally, Marvin identified that he gets between 4-5 hours of sleep a night, is tired during the day, and does not have a consistent sleep routine. Using the PEO model, the OTP found the following transactions presented a poor fit for Marvin:

- Transaction: sensory (person) x physical (environment) x sleep (occupation)

Explanation: Marvin is having difficulty falling asleep at night due to sound within his physical environment.

- Transaction: physical (person) x sleep (occupation)

Explanation: As a result of not getting enough sleep or maintaining a consistent sleep routine, Marvin feels tired during the day. This makes it hard for him to maintain a sleep routine for himself and as a result he takes several naps during the day.

The OTP is now preparing an intervention for next session that focuses on addressing sleep. The OTP ensures Marvin feels safe in the treatment environment by building repertoire and allowing him to sit where he wished within the room.

Intervention 4a: Modulating Senses to Promote Sleep

The following transaction was used when developing this intervention:

- Sensory (person) x physical (environment) x sleep (occupation): Marvin is having difficulty falling asleep at night due to sound within his physical environment.

A series of steps were taken to address Marvin's senses, physical environment, and sleep. These included:

1. The OTP began by explaining the influence of the physical environment on our senses. Marvin explained that he cannot fall asleep because he is hypersensitive to noises around him.
2. The OTP recommended use of noise cancelling headphones. Marvin was worried about wearing noise cancelling headphones out of fear that he would not wake for his alarm in the morning. He verbalized that he already has enough troubles getting up for work in the morning and does not want to lose his job from being late. The OTP suggested that Marvin ask his husband if he would be willing to wake him up in the morning which would allow Marvin to use his noise cancelling headphones. Marvin agreed that this would be feasible. The OTP had Marvin try out this strategy and report back on how it worked next session.

Evidence for Intervention. Sensory-based interventions have demonstrated efficacy in individuals with PTSD (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O'Sullivan & Fitzgibbon, 2018).

Intervention 4b: Building a Sleep Routine

The following transaction was used when developing this intervention:

- Physical (person) x sleep (occupation): As a result of not getting enough sleep or maintaining a consistent sleep routine, Marvin feels tired during the day. This makes it hard for him to develop a sleep routine for himself.

The OTP undertook the following steps to assist Marvin in building a sleep routine. This included:

1. The OTP began session by having Marvin explain his daily schedule and what he does before bed. Marvin identified that before bed he typically goes on his phone, watches a television show while drinking a beer, eats a snack, then goes to lay down in bed.
2. The OTP educated Marvin on sleep hygiene tips and provided him with a handout to remember them (see figure B5 in appendix B).
3. The OTP then assisted Marvin in making a personalized sleep checklist. Included in the checklist were healthy habits and routines that promote sleep such as getting 7-9 hours of sleep, doing a relaxing activity before bed, journaling stressful thoughts, and avoiding alcohol and snacks before bed (Pierce & Summers, 2019).
4. The OTP ended session by having Marvin try out a relaxing activity that he could incorporate into his nightly routine. With Marvin's permission, the OTP played a short mindfulness audio to promote relaxation.

Evidence for Intervention. Behavioral activation has demonstrated efficacy in individuals with PTSD (Etherton & Farley, 2022). Use of a sleep checklist is a form of behavioral activation tool. In addition, interventions that target sleep specifically as opposed to just PTSD symptoms have the greatest impacts on sleep improvements (Maher et al., 2021).

Inclusion of a mindfulness activity before bedtime is a form of a mind-body intervention, which have also demonstrated efficacy with PTSD and sleep (Lee et al., 2022).

Social Participation

Case Scenario 5

Amy is a 17-year-old female (she/her) currently in her senior year of high school. Amy's mom sought out occupational therapy for Amy because Amy has been isolating herself. Amy's mom notes that Amy had experienced a traumatic event about four months ago and ever since then Amy has been avoiding friends, gets irritable, has low self-esteem, and has difficulties regulating her emotions.

Upon meeting with Amy, the OTP administered the SPRINT questionnaire which identified that Amy has been experiencing heightened PTSD symptoms. The OTP also administered the DASS-21 which identified severe depression, severe anxiety, and moderate stress levels. The ASH screen identified Amy has difficulty modulating tactile, auditory, and visual input. Through discussion with Amy, the OTP discovered that her priorities were improving her mood, managing difficult emotions, and hanging out with friends more. Following evaluation, the OTP found the following PEO transactions presented a poor fit for Amy:

- Transaction: sensory (person) x social (environment) x social participation (occupation)
Explanation: Amy's difficulties with tactile, auditory, and visual modulation make it difficult to interact with others.
- Transaction: affective (person) x social (environment) x social participation (occupation)
Explanation: Amy's mood is contributing to her avoidance of interactions with others.

The OTP is now preparing interventions for next session to do with Amy that address her challenges with social participation. The OTP ensures Amy feels safe in the treatment environment by building repertoire and allowing her to choose where she sits in the room.

Intervention 5a: Addressing Sensory Challenges That Impact Social Participation

The following transaction was considered while developing this intervention:

- Sensory (person) x social (environment) x social participation (occupation)

The OTP undertook several steps to address Amy's sensory system and impacts on social participation. These steps included:

1. The OTP began the session by educating Amy on her ASH results and what they meant.
2. The OTP then made recommendations for Amy to help regulate her senses to help her feel calmer during social interactions.
 - a. The OTP made recommendations for modulating tactile input including use of a fidget and deep touch. The OTP explained the calming nature of deep touch and how it can help make people feel more safe and secure in their bodies. The OTP then provided Amy with techniques to obtain deep touch such as stomping her feet into the ground, using a weighted blanket at home, pushing her hands against the wall, and pushing her hands together.
 - b. The OTP then provided recommendations for modulating auditory input. The OTP recommended meeting with a smaller group of friends in a quieter spot.
 - c. The OTP then provided recommendations for modulating visual input. The OTP recommended meeting friends in a place that is not too visually stimulating, wearing a hat, and/or wearing sunglasses.
3. The OTP then had Amy identify which strategies she wanted to try for the upcoming week. Amy identified wanting to try out pushing her hands into the wall, meeting with a smaller group of friends, and wearing a hat.
4. The OTP had Amy write down the strategies she wanted to try on a sticky note and suggested that she put the sticky note a place that she will look at it.

Evidence for intervention. Sensory-based interventions have demonstrated efficacy in individuals with PTSD (AOTA, 2015; Champagne, 2019; McGreevy & Boland, 2020; O’Sullivan & Fitzgibbon, 2018).

Intervention 5b: Addressing Avoidance of Social Interactions

The following transaction was considered when developing this intervention:

- Affective (person) x social (environment) x social participation (occupation): Amy’s mood is contributing to her avoidance of interactions with others.

The OTP addressed Amy’s mood and avoidance of social interactions through the following steps:

1. The OTP began by allowing Amy to express her mood. Amy noted that her mood was angry and depressed.
 - a. The OTP then addressed Amy’s mood through a CBT frame of reference. The OTP provided education on CBT and how thoughts, behaviors, and emotions all impact each other. The OTP then had Amy identify maladaptive thoughts/beliefs that come to mind regarding social interactions with others. Amy identified “I feel like I’m a burden and none of my friends like me”. The OTP then had Amy identify how this thought made her feel and what it made her want to do. Amy stated that this thought made her feel “really sad”, and it made her avoid her friends.
 - b. The OTP then challenged Amy to state evidence against her negative thought by asking “what evidence do you have that you are a burden or that your friends don’t like you?”. Amy stated that she had no evidence for these beliefs. The OTP then asked Amy to reframe this belief into something more positive in which Amy

came up with “my friends have showed no indication that they don’t like me.

They are always happy when I am around”. Amy stated this new belief made her feel happier and more likely to reach out to her friends.

2. Following use of CBT, the OTP had Amy engage in an activity to improve her self-compassion. The OTP educated Amy on self-compassion and activities that can help improve this.
 - a. The OTP asked Amy to complete a self-esteem journal, which asked her to state one positive thing about herself every day of the week. Amy was willing to do this as homework.
 - b. The OTP ended the session with a loving-kindness meditation that focused on self-compassion.

Evidence for intervention. CBT has been shown to be an effective intervention approach for individuals with PTSD (APA, 2019; Champagne, 2019; Lee et al., 2022; Maher et al., 2021; SAMSHA, 2014b; Winders et al., 2019). Additionally, use of self-compassion principles has also been shown to be effective in improving self-compassion among those with PTSD (Winders et al., 2019). Improving self-compassion has also shown to have positive impacts on emotional regulation challenges, which Amy experiences (Inwood & Ferrari, 2018). Lastly, ending the session with a meditation exercise was a form of a mind-body intervention, which have demonstrated efficacy in PTSD (Lee et al., 2022).

Outcomes

Outcomes are the end result of the occupational therapy process and describe what clients have achieved throughout occupational therapy intervention (AOTA, 2020). The outcomes process includes measuring outcomes, facilitating the transition process, and discontinuation of services (AOTA, 2020). During the outcomes process, the OTP should re-administer PTSD screens and any brief assessments administered during the evaluation process. The OTP should also have an informal conversation with the client about progress towards goals, how they think they have progressed, and what they feel they need going forward. This leads into the transition process, which may involve setting the client up with additional providers in the community. For individuals with trauma this may include setting them up with a psychologist, psychiatrist, or community support services. Discontinuation of care is then initiated when the OTP feels that the client has met their goals, progress in occupational therapy has plateaued, or the client requests that services cease. When discontinuing care, the OTP should collaboratively set up a discharge plan with the client that involves a plan to support their occupational performance going forward.

Conclusion

Trauma is highly prevalent, is often comorbid with many clinical conditions, and has widespread impacts on occupational performance. *Best Practice Occupational Therapy Interventions for Addressing Trauma and Posttraumatic Stress Disorder: A Practitioner Guide* was created to provide guidance for OTPs to address trauma in practice. This guide leads OTPs through the occupational therapy process as it relates to trauma, discusses impacts of trauma on PEO components, and addresses common comorbidities of trauma. Clients with trauma are present within all areas of occupational therapy practice, however trauma is not always addressed within all areas of practice. OTPs have a unique role in addressing the person holistically which includes their mental health. Physical and mental health are highly related as physical conditions can adversely impact mental health and mental health conditions can adversely impact physical health. Overall, addressing trauma within all areas of occupational therapy practice has the potential to enhance client outcomes by improving occupational performance and quality of life.

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Appendix B: Intervention Materials

Below are intervention materials referred to within the intervention case studies in appendix A.

Figure B1

Daily Activity Checklist

Daily Activity Checklist

Directions: Place a check mark in each box after completing the activity.

Activity	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

What is motivating me to complete these activities?

Figure B2

Fear Exposure Hierarchy

Activity	Anxiety levels (from 0-10)
1. (Least feared)	Prior: Highest during: After:
2.	Prior: Highest during: After:
3.	Prior: Highest during: After:
4.	Prior: Highest during: After:
5.	Prior: Highest during: After:
6.	Prior: Highest during: After:
7.	Prior: Highest during: After:
8.	Prior: Highest during: After:
9. (Most feared)	Prior: Highest during: After:

Figure B3

Categorized List for Scheduling Appointments

<u>Important and urgent</u>	<u>Important but not urgent</u>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
(Need to do within next 2 weeks)	(Should do within next 1-2 months)

Figure B4

Assertive Communication Tips

Assertive Communication Tips

- ✚ Use “I” statements to express your feelings and needs.
- ✚ Speak in a calm voice.
- ✚ Do not place blame.
- ✚ State needs clearly and confidently.
- ✚ Listen to others without interrupting.
- ✚ Use the “XYZ” formula to express your needs clearly

XYZ Formula

1. I feel X (emotion)
2. When you do Y (behavior)
3. In situation Z (situation)
4. And I would like you to (what you want them to do)

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Figure B5

Sleep Hygiene Tips

Sleep Hygiene

Sleep hygiene involves making lifestyle choices that improve our sleep quality and quantity. Sleep hygiene is important because it helps tell our bodies when it is time to be awake and when it is time to sleep.

Tips to promote good sleep (Pierce & Summers, 2019):

- Go to bed and wake up around the same time each day, including the weekend.
- Exercise should be avoided during the 2-3 hours before you go to bed.
- Regular exercise done earlier in the day is beneficial to sleep quality.
- If you have negative thoughts on your mind that impact your ability to sleep, write those negative thoughts down and imagine dealing with them the next day.
- Include a quiet activity in your bedtime routine such as reading a book or listening to relaxing music. Make sure to dim the lighting (try turn a lamp on instead of regular room lights).
- Alcohol and caffeine should be avoided before bed.
- The room you sleep in should be dark.

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