ACE: A Recipe for Occupational Competence

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ACE: A Recipe for Occupational Competence

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
College of Health Sciences
Department of Occupational Science and Occupational Therapy

Brittany Miller
2020

EASTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

This project, written by Brittany Miller under direction of Shirley O'Brien Faculty Mentor, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF OCCUPATIONAL THERAPY

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Certification

We hereby certify that this Capstone project, submitted by Brittany Miller conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Occupational Therapy degree.

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Executive Summary

Background Adverse childhood experiences are increasing in society and the lack of knowledge surrounding the condition from the adults who frequently interact with them is concerning. This concern lays the foundation for the development of a targeted approach to pediatric intervention by occupational therapists.

The problem this capstone project addresses is expanding the understanding of how adverse childhood experiences mirror other common conditions as well as the need for more competent and confident occupational therapists in identifying and treating children with adverse childhood experiences.

Purpose: The purpose of this project is to enhance occupational therapists knowledge of ACE, as a silent condition that often presents with similar symptoms with co-occurring conditions. Through participating in a series of educational opportunities targeting occupational therapists working with children with ACE, incorporating information on the signs and symptoms of adverse childhood experiences and suggestions on how to assist children in dealing with such difficulties and overcoming the adversity, it is hoped to improve pediatric occupational therapy practice. Thus, children with ACE will be able to thrive within their various environments. ACE: A Recipe for Occupational Competence is a professional-based educational program that aims to educate and expand occupational therapists' critical thinking and reasoning to affectively evaluate and treat children with a history of early adversity.

Theoretical Framework. This study used a Model of Human Occupation (MOHO) theoretical approach to guide the underlying structure and analysis.

Methods. This study used a qualitative descriptive design. Three pre-recorded educational training sessions were developed as a part of the capstone project to address this void in understanding. The use of journaling and interviews allowed for analysis of the participants' perceptions of the accessibility and awareness of ACE as well as their confidence and competence of treating patients with ACE following the three educational opportunities.

Results. The research and the data exists that conclude mental health considerations is essential to a person's well-being and relationships with self and others as well as their ability to live a full and productive life. Researchers of healthcare and healthcare professionals have been advocating for the importance of the use of a sensory approach as worthy avenues to address symptoms of trauma for children. Findings in this study reinforce the need for more educated occupational therapist within the area of ACE.

Conclusions: This capstone project concludes the following: childhood trauma exists, the need for OT is there and ACE: A Recipe for Occupational Competence can help us get there. By focusing locally, change can happen and reinforce learning as demonstrated in this capstone project. Therapists can support each other's growth through reinforcing occupational competence within the select environment.

Acknowledgements

I would like to express my sincerest gratitude to all of the individuals that supported me during my journey in the OTD program.

First and foremost, my incredible mentor. Dr. O'Brien, thank you so much for your incredible guidance throughout this program. I can promise you, I would have never survived without it. Thank you for continuously cheering me on and for the never ending encouragement. I have grown tremendously as a professional over the past 2 years and I cannot thank you enough for pushing me to be better.

Thank you to my Alma Mater, EKU and even more specifically, the school of occupational therapy. I've spent many of years with some wonderful professors and leaders and I will forever be thankful for the knowledge and relationships that were gained.

Thank you to the families of the patients that trust in the process of what occupational therapy is. Thank you to the therapist that took time out of their busy lives, specifically during a pandemic, to participate in my study. Your support will forever be acknowledged.

Last but certainly not least, I am incredibly grateful and indebted to my parents, my biggest fans. Thank you for believing in me always. Thank you for the support over the years in so many ways. Thank you for knowing what I can and will accomplish before I ever could have imagined it. I am who I am because of the two of you and I couldn't be more blessed.

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CERTIFICATION OF AUTHORSHIP

Submitted to (Faculty Mentor's Name): _Dr. Shirley O'Brien___________________
Student's Name: _Brittany Miller ____
Title of Submission: ACE: A Recipe for Occupational Competence______________

Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.

Student's Signature: _____Brittany Miller ``` __________________________

Date of Submission: _____12-3-2020_______________________________________

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Section I: Nature of the Problem and Problem Identification

A shift in social norms has occurred over the past few years, which has been detrimental to the youth of society. Increasing amounts of children are exposed to some type of stress or trauma. Children may experience trauma under many different categorical areas including abuse involved sexually, physically and/or emotionally; physical, emotional, medical and/or educational neglect; natural disasters; illness; and/or violence involved within their school, community and/or domestically (Petrenchik & Weiss, 2015). When a child is exposed to such trauma, they are defined as adverse childhood experiences. Such experiences lead to mental health difficulties in early life (Fette et al., 2019).

Kaffman (2009) describes the societal trend of adverse childhood experience as a silent epidemic, commenting especially on how common it has become. According to the U. S. Department of Health and Human Services, one million children experience substantiated abuse each year in the U. S. (2007). In Kentucky, 1 in 5 children birth to age five, experience two or more adverse childhood experiences (ACE) compared to 1 in 8 children nationally (Kids Count, 2014).

Pediatric occupational therapists often work in children's hospitals. These professionals are the frontline of therapy service delivery. Parents and caregivers expect that therapists are competent and confident about the most recent developments in health care practices. Understanding ACE is paramount to service delivery. It has been this author's experience as a pediatric occupational therapist in an outpatient setting that adverse childhood experiences are overlooked by larger, more prevalent diagnoses.

Children are referred to occupational therapy for difficulties in tasks impeded by ACE, however the use of ACE, trauma, and/or stress are not reported in a referral, leading therapists to often times miss these concerns entirely. Further, diagnostic referrals often do not offer the option of selecting ACE. Thus, other diagnostic codes are used, and it has been the experience of this therapist, that ACE is not realized by pediatric therapists until later in treatment sessions when further exploration about conditions are explored. Nagy et al (2019) discuss how the lack of awareness about the issue often hinders the ability to collect relevant information for these patients. A needs assessment conducted in summer 2019, concluded that ACE is under-assessed and not fully acknowledged in the outpatient pediatric setting in this children's hospital. Because of the prevalence and the need for confident and competent occupational therapists as team members for these children, this study exists.

Problem, Purpose and Objectives

Adverse childhood experiences are increasing in society. The effect of ACE on the development of the child and the lack of knowledge surrounding the condition of adults who frequently interact with them is concerning. Thus, the foundation is laid for the development of a targeted approach to pediatric intervention by occupational therapists. Occupational therapists possess knowledge about development from a biopsychosocial perspective. However, the newness of this condition may limit occupational therapists in discerning the overlapping signs and symptoms of other commonly experienced conditions, such as sensory processing disorder and attention deficit hyperactivity disorder.

Problem

The problem this capstone project addresses is the misdiagnosis of adverse childhood experiences and the need for more competent and confident occupational therapists in identifying and treating children with adverse childhood experiences.

Purpose

The purpose of this project is to enhance occupational therapists knowledge of ACE, as a silent condition that often presents with similar symptoms with co-occurring conditions. Through participating in a series of educational opportunities targeting occupational therapists working with children with ACE, incorporating information on the signs and symptoms of adverse childhood experiences and suggestions on how to assist children in dealing with such difficulties and overcoming the adversity, it is hoped to improve pediatric occupational therapy practice. Thus, children with ACE will be able to thrive within their various environments. ACE: A Recipe for Occupational Competence is a professional-based educational program that aims to educate and expand occupational therapists' critical thinking and reasoning to affectively evaluate and treat children with a history of early adversity.

Objectives

The following objectives were utilized to plan and implement a series of educational opportunities to enhance a therapist's competence and confidence in treating children with adverse childhood experiences:

1. Participating occupational therapists will explore treatment strategies for children with adverse childhood experiences;

2. Participating occupational therapists will increase their awareness and knowledge of children with adverse childhood experiences;
3. Participating occupational therapists will demonstrate the ability to implement their knowledge by applying the information provided during educational opportunities.

Theoretical Framework

This study used a Model of Human Occupation (MOHO) theoretical approach to guide the underlying structure and analysis. MOHO, summarizes how one's environment works alongside one's motivation and performance to successfully complete a task. MOHO works to explain how occupation is motivated (volition), patterned (habituation), and performed (performance) (Taylor, 2017). The implementation of MOHO into this project is explained further by addressing the components of the model.

Volition

MOHO supports an understanding of how people are motivated and make choices for doing the activities that fulfil their lives. The participants in the study will be motivated by furthering their education in treating children with childhood trauma.

Habituation

MOHO supports an understanding of why everyday life is made up of recurrent patterns of behavior in familiar physical and social environments. The participants in this study follow a specific role or pattern as an occupational therapist in their daily, professional lives. Completing this study will only enhance this role.

Performance capacity

MOHO supports an understanding of how others perform daily tasks. Performance capacity is viewed as “objectively observable, measureable, and quantifiable but most importantly, as lived, or subjectively experienced, by the client” (Taylor, 2017, p. vii). Following the implementation of the educational opportunities, the occupational therapists within this study will have gained knowledge of their capacity to treat children with exposure to trauma.

Environment

MOHO supports one’s environment in relation to their engagement, performance and participation. Completing the educational opportunities virtually every other week will enhance the therapists’ engagement, performance and participation at a time that is convenient for them.

Occupational therapists are constantly developing skills that enable us to perform activities and tasks and to participate in occupational roles, overtime allowing us to develop an occupational identity, corresponding with our feelings of occupational competence regarding specific roles and activities. Following the MOHO principles, ACE: A Recipe for Occupational Competence will encourage the development of skills to enhance the treatment sessions of occupational therapists that participate in the study when working with children with trauma.

Significance of Study

According to Healthy People 2020, “In 2010, one in five children in the United States had a mental health disorder”. Even after the events have ended, children that had suffered from traumatic stress and exposure to traumas over the course of their lives, developed reactions that persist, still affect their daily lives (The National Child Traumatic Stress Network, 2019).

One of the earliest researchers on adverse childhood experiences, D. Vincent Felitt, argued that ACEs are “the leading determinant of the health and social well-being of the nation” (Roberts, 2019, p. 141). In 2007, it was reported that an estimated $103.8 billion was paid towards the cost of childhood abuse and neglect; this included foster care and residential treatment for those children (Wang & Holton, 2007, p. 2). Alongside of this cost, a different report states that “child abuse-related hospitalizations resulted in fatalities at 10-fold the rate of non-child-abuse hospitalizations, incurred twice the cost of non-abuse-related hospitalizations ($19,266 vs. $9,153 in 1999), and were twice as often paid for through Medicaid” (Rovi et al., 2004, p. 588). The National Institute of Justice estimates that the combined costs of mental health care, social services, medical care, and police services are $4,379 per incident of childhood abuse. The financial costs of childhood victimization represent an urgent public health need that has been identified as the most significant public health issue in the country (Anda et al., 2006, p. 188).

Based on information reported by Kentucky parents during the 2016 National Survey of Children’s Health, 27% of Kentucky children have experienced one ACE, 13% have experienced two, and 14% have experienced three to eight ACEs (Downs, 2018). Divorce or separation of parents (33%), economic hardship (27%) and parental/guardian incarceration (15%) are among the most common adverse childhood experiences of Kentucky children (Downs, 2018). According to the Kids Count 2014 report, Kentucky has now had four consecutive years in which more than one in every four children lives in poverty, which is consistently higher than the national average. It also reports that more than two in every five Kentucky children live in a high-poverty area.

Mental health is essential to a person's well-being and relationships with self and others as well as their ability to live a full and productive life (Healthy People 2020, 2018). The well-being, relationships and productive activities in life of an individual start at a very young age, proving the need for mental health to be addressed immediately. With the appropriate education and knowledge, occupational therapists can have the competence and the confidence to treat these children to assist in enhancing their participation in daily activities; enter ACE: A Recipe for Occupational Competence.

Section II: Literature Review

This literature review focused on information relevant to adverse childhood experiences in relation to occupational therapy. Included is information required to further the need for the capstone. The information was retrieved through a search of academic journals using key words such as adverse childhood experiences, childhood trauma, sensory processing difficulties, using sensory strategies to treat trauma and sensory processing difficulties vs adverse childhood experiences. Academic databases such as Academic Search Premier, Pratt Library, and Google Scholar were utilized to analyze current research on adverse childhood experiences. The American Occupational Therapy Association (AOTA)'s website and related materials were explored to support content knowledge about the topic.

A Co-Curing Condition

There is strong evidence that backs up the statement that ACEs tend to co-occur (Nagy et al., 2019). D'Andrea et al (2012) completed a study that suggests there be a new diagnosis added to the DSM for children with specific history of trauma or stress as ACE is similar to other mental health diagnoses including post-traumatic stress disorder and anxiety, but truly very different, needing different preventative measure, different service providers and different types of intervention. A specific diagnosis for children with a history of trauma or stress will set them aside from others with general anxiety disorder diagnoses, helping caregivers, school staff as well as service providers recognize the need for different, specific intervention early on.

Studies have shown that the long-term effects related to ACEs are manifested in psychological or antisocial problems later in life (Muniz et al., 2019; Murphey & Sacks, 2019). Often times patients that have experienced these adverse events may not remember their trauma. More often these patients continue to display the same indicators of persistent stress (Roberts, 2019).

Patients with ACE often have sensory processing difficulties (Lynch et al., 2017; Bodison & Parham, 2018; Parham et al., 2019; Pollak, 2008; Harpin et al., 2016). Sensory processing is described as the method in which the "central and peripheral nervous systems process external sensory stimuli and involves the ability to register and manipulate information and integrate differentt types of received sensations" (Lai et al., 2019, p. 1). A distinct relationship between sensory responsiveness and coping styles and an ACE can cause a disconnection in sensory processing (Lynch et al., 2016).

Sensory as a Treatment Strategy

Research continues to emerge on the topic of complex trauma and its effect on the brain development, specifically with the ability to process sensory information. These difficulties regarding the sensory system, negatively impact a child's ability to self-regulation emotions. A scoping review of this research, although limited, shows promising evidence that the use of sensory intervention can have a positive impact on child's participation in daily tasks (Fraser et al., 2017).

Adverse childhood experiences often trigger survival responses from the brain and nervous system, often referred to the fight, flight and freeze response. This response can have a direct adverse effect on the developmental of physio and cognitive functions, and more importantly the capacities of self-regulation (McGreevy & Boland, 2020). When an activity triggers a child's memory of the traumatic event, sensations in the body are also triggered, causing overwhelming psychological and emotional responses that may impeded the child's occupational participation and performance. These overwhelming responses can be traced back to the sensory processing system.

Sensory dysregulation can have a distinct disruption in one's participation in daily living tasks. Using sensory integration-type therapy sessions (Ayres 1972, 2004) can provide knowledge of the sensory systems affected by adverse childhood experiences and can assist in bringing about sensory modulation strategies that address the dysregulation difficulties (Warner et al., 2013). According to a study completed by van Der Kolk (2002), to gain effective therapeutic results for individuals with a history or complex trauma, the integration and processing of disruptive emotions and sensations must be present. Serafini et al., (2016) completed a study that investigated the childhood traumatic experiences and their relationship to sensory processing patterns and the quality of life among patients with bipolar and unipolar disorders. Results from the study concluded that in both groups (bipolar and unipolar), lower registration, sensory sensitivity and sensory avoidance all correlated with enhanced childhood traumatic events.

Other studies report on the benefits of specific sensory treatment strategies. Holland et al., (2018) utilized a "sensory room" as well as a "sensory kit" to assist in regulating emotions specifically for young adults who had experienced childhood trauma. Although not all specifics were listed in the study, it did discuss the use of weighted blankets, tactile equipment, yoga, cooking and art-making. Kimball et al., 2018, discusses the use of the Wilbarger Therapy Brushing Program (deep touch pressure to the skin using a specific brush followed by firm joint compressions). Two of the four participants reported positive change, enhanced occupational performance and modulation of emotions.

A study completed by Harpin et al., 2016, utilized the Mindfulness curriculum with elementary students. The study discusses the Mindfulness practice and how it can "teach young people coping and calming techniques that can be used across a student's social ecology to help alleviate stress and cope with stressful situations" (p. 150). The Mindfulness instruction program had a positive effect on perceived behaviors, emotional regulation and academic achievements as reported by both teachers and students. Results from the study conclude that Mindfulness instruction may have the potential to meet requirements in decreasing adverse behaviors related to ACE and in increase social emotional learning (Harpin et al., 2016).

An integrative review completed by McGreevy and Boland (2020) found that all 9 conceptual papers retrieved for the study support a sensory approach that is trauma informed to be utilized within a recovery-oriented context as a treatment focus for complex trauma or PTSD. The study also found that all papers reviewed reiterate how sensory-based interventions "target intense physical manifestations of traumatic sequelae and offer a different therapeutic experience to that of conventional psychopharmacological treatment approaches" (McGreevy & Boland, 2020, p. 36). This is an important consideration for intervention sessions.

A systematic review completed by Bodison and Parham (2018) examined the effectiveness of specific sensory techniques and sensory environmental modifications to improve participation of children with sensory integration (SI) difficulties. Although a specific emotional regulation program is not provided as treatment in this group of studies, some interventions provided are included as strategies to enhance emotional regulation. The review concludes that Qigong massage showed strong evidence to promoting better participation for children with SI difficulties, moderate evidence supported sensory modifications to the dental care environment, and weighted vests provided minimal evidence.

The lives of children affected by trauma are disrupted by moments of overwhelming emotional states. The tools and resources to assist these children are limited or non-existent (Warner et al., 2013). While we await such information, trained staff offering support and consultation on the use of sensory integration theory and sensory modulation techniques, offer innovative strategies for improving emotional regulation in children exposed to trauma (Warner et al., 2013). Furthermore, using the sensory tool and resources to establish safety, connection and emotional and behavioral regulation creates a foundation of structure for children with ACEs. Feeling safe and connected will increase the child’s ability to learn to understanding and regulate their emotions and behaviors for improved participation in daily tasks (Dombo & Sabatino, 2019). Researchers of healthcare and healthcare professionals have been advocating for the importance of the use of a sensory approach as worthy avenues to address symptoms of trauma for children (McGreevy & Boland, 2020). Occupational therapists can assist in advocating with our fellow healthcare peers by advocating for the need for OT for these children.

The Need for OT

To put it simply, occupational therapists are educated to help others, using everyday activities or occupations, participate in things they want or need to do.

Occupational therapists address the physical, psychological and cognitive aspects of health to help others function throughout all of their environments (home, work, school, etc.) (AOTA, 2020). When treating patients with adverse childhood experiences, the first and most straightforward step includes “promoting a safe environment, meeting physiological needs, providing predictable routines, and seeking meaningful engagement” (Roberts, 2019, p. 152). Occupational therapists are able to utilize their educational training and background to address the needs identified by Roberts (2019).

Occupational therapists utilize their expertise to treat children with ACE in many different environments. In early intervention, OTs can “model responsive relationships for parents/caregivers in order to foster social-emotional development, reciprocal communication, and safe physical exploration of the environment” (Barreca, 2017) ,as well as collaborate with caregivers, daycare staff and other team members to improve self-efficacy for child and family related to “healthy discipline, stress management and positive copying strategies. Within the school environment, occupational therapist can advocate to bring trauma-informed practices within the school setting and collaboration with the teachers to provide resources and support for enhanced self-regulation and socio-emotional development. Within the community, OTs can speak out to raise awareness regarding the prevalence and the impact of ACE on children, advocate and plan for “safe recreational activities in the community to provide opportunities for positive adult modeling and peer social interaction” (Barreca, 2017).

Raising awareness amongst other professions would be beneficial in assisting to connect patients with support services (Crouch et al., 2019). Advocating for increased awareness to enhance detection of the under-lying diagnosis of ACE is an important role for occupational therapy and critical to the well-being of these children. Programs and frameworks based on early recognition of ACEs can contribute in the prevention of a wide range of co-morbidities in relation to both emotional and physical health. Policies, programs and interventions should be based on an in-depth knowledge on the patterns of ACEs and encourage collaboration amongst service providers (Crouch et al, 2019; Roberts, 2019; Nagy et al., 2010).

Section III: Methods

Project Design

This study used a qualitative descriptive design (Stanley, 2015). Qualitative descriptive inquiry allows for a starting point to situate problem exploration, often at a local level. Based upon findings of a needs assessment, ACE was not fully assessed or understood by the occupational therapists in one pediatric outpatient facility. Educational training sessions were developed as a part of the capstone project to address this void in understanding. The use of journaling and interviews allowed for analysis of the participants' perceptions of the accessibility and awareness of ACE as well as their confidence and competence of treating patients with ACE following the three educational opportunities.

Setting

The educational opportunities were pre-recorded utilizing the video conferencing system, Zoom (Zoom.us, 2020). The recorded opportunities were placed in a secure online folder drive accessible to all participants. The virtual education opportunities were available for participants to watch from their home or workplace virtually at their convenience. Access was limited to the study participants. Completing the educational opportunities virtually biweekly enhanced the therapists' engagement, performance and participation at a convenient time.

Participant Recruitment

Following approval from Eastern Kentucky University's Institutional Review Board, an email was sent to five pre-identified occupational therapists, all whom practice at a major children's hospital outpatient clinic and have a background in sensory processing difficulties, inviting them to participate in an educational opportunity involving children with adverse childhood experiences. The content of the invitation requested that occupational therapists meet the following inclusion criteria:

1. Possess a desire to increase their awareness and knowledge of children with adverse childhood experiences,

2. Explore treatment strategies for children with adverse childhood experiences and demonstrate the ability to implement their knowledge to watch the educational opportunities,

3. Complete the journal entries after each educational session;

4. Complete an interview that follows completion of the educational sessions.

Project Procedures

Following participant recruitment and obtaining informed consent, participants were invited to start the educational training sessions. The educational opportunities consisted of three sessions, all of which were recorded for reliability reasons (Appendix 1). The first session included an overview of adverse childhood experiences, including its definition, prevalence, what it looks like as a behavior in a child and how it affects the child's participation in everyday life. The second session discussed treatment strategies with a sensory-based intervention and included case studies. The final session gave participants the opportunity to demonstrate their knowledge gained over the first 2 sessions by planning a specific treatment session for a child with adverse childhood experiences.

Following each educational opportunity and prior to the next scheduled session, the participants participated in a journaling activity following a specific prompt. Journals were completed and sent to the researcher via email.

Session 1 journal prompt: Please describe a child on your caseload with an identified ACE. If you do not currently have a child on your caseload, please complete a case-study utilizing a pseudo patient.

Session 2 journal prompt: Make a list of specific sensory processing activities and/or strategies you may utilize for a child with ACE.

Session 3 journal prompt: Outline a treatment session that you have conducted or may conduct in the future for a child with ACE, utilizing the information gained from the 3 educational opportunities.

Additionally, following the third and final educational opportunity, each completed a short semi-structured interview with the researcher, specifically commenting on how the educational opportunities have changed their thoughts regarding treating patients with adverse childhood experiences. Final interviews were conducted via phone or in-person, based upon the preference of the participant. The guiding question probe was: How, if at all, have the three educational opportunities benefited you as an occupational therapist accessing and treating patients with adverse childhood experiences? Please discuss, in detail, how you will utilize this information moving forward in your treatment sessions.

The primary researcher kept a table of participant completion of study activities. Reminders for journal completion were sent within three days of the release of each module. If occupational therapists had not shared journal within seven days, a second reminder was sent.

Data Analysis

Data from the participant journals were analyzed using content analysis in which the researcher examined the data for any trends or patterns. Results from the journal questions as well as the interview were then coded using open coding, and organized in relation to the capstone project objectives. Open coding was completed to locate reoccurring themes that emerged throughout the journals and interviews. The researcher participated in peer debriefing with mentor and kept a reflexive journal to identify potential bias during the research process.

Section IV: Results and Discussion

The intent of this capstone project was to educate and expand occupational therapists' critical thinking and reasoning skills to effective evaluate and treat children with a history of adversity. The results are a collective representation of the thoughts of four occupational therapist participants following each educational opportunity as well as a final interview. Although five occupational therapists were invited to participate, only four were able to complete the requirements of the study. Results were organized by the pre-determined capstone project outcomes.

Outcome 1: Participating occupational therapists will explore treatment strategies for children with adverse childhood experiences.

Theme: Make it a Sensory Diet

The results of this outcome were interesting in terms of skills versus perceptions. All participants were occupational therapists with a background in sensory processing interventions. All four participants did not report any new education regarding the use of specific sensory strategies with patients with ACE, however each reported education in a different way. Christy stated the following: "I feel more confident in my decisions to utilize sensory strategies with these children thanks to the research. It was a good reminder of how sensory processing strategies can assist in helping children with trauma cope, including assisting in emotional regulation skills." She went on to state that though she does not believe her clinical skills will be impacted specifically, as she has already been implementing the sensory work, the "clinical reasoning can now be better justified, thanks to the course".

Elizabeth stated the following regarding the presentations: “a better understanding of how ACE and sensory processing challenges are related; why sensory intervention strategies are successful in treating children with ACE; more confidence in my ability to explain to others why sensory strategies can be successful for children with trauma, specifically with families.” Jennifer, felt similar and stated that “following the opportunities, my understanding of the use of sensory strategies in treatment session with kids with ACE has been enhanced in which I can now explain how they are relatable and how the strategies can benefit kids with emotional regulation difficulties.” She recognized how the evidence also assisted in her meeting this outcome, stating that “with the help of the research, I feel more confident in how my current use of sensory strategies in treatment is beneficial for these kids.”

Julie admitted to using sensory strategies during her treatment sessions with children with ACE, but it was not until after the presentation and the evidence shared that she connected the sensory processing difficulties with trauma. She states “ I am now more aware of how they are inter-related and can feel confident in using sensory treatment strategies, even it if isn’t listed as a specific concern because of the research.” The responses of the participants following the educational opportunities demonstrate the successful exploration of sensory strategies for children with ACE, as stated in objective one.

The responses and the successful implementation of the objective can be related back the literature. The distinct relationship between sensory responsiveness and coping styles in relation to children with ACE is well documented (Lynch et al., 2016). Research continues to emerge on the topic of complex trauma and its effect on the brain development, specifically with the ability to process sensory information. These difficulties regarding the sensory system, negatively impact a child's ability to self-regulation emotions. Within journal entry two participants from the study reported a variety of sensory strategies utilized during their treatment sessions with a reoccurrence reporting of the following: Zones of Regulation, movement, deep pressure and heavy work. Fraser et al. (2017) reports an identification of research showing promising evidence that the use of sensory intervention can have a positive impact on child's participation in daily tasks.

Sensory dysregulation can have a distinct disruption in one's participation in daily living tasks. Participants utilized journal entry one to define what specific daily tasks were being impeded in the lives of their patients with ACE. Aggression, decreased safety, emotional regulation and inattention were amongst the most popular difficulties identified on the COPM by the patients' caregivers. Using sensory integration-type therapy sessions (Ayres 1972, 2004) can provide knowledge of the sensory systems affected by adverse childhood experiences and can assist in bringing about sensory modulation strategies that address the dysregulation difficulties (Warner et al., 2013), assisting in enhancing the difficulties listed on the COPM. Thus, through these educational sessions, the occupational therapists were re-educated based upon the literature and now have developed deeper insights into exploring treatment strategies for children with ACE.

Outcome 2: Participating occupational therapists will increase their awareness and knowledge of children with adverse childhood experiences.

Theme: The silent co-diagnosis

There is strong evidence that backs up the statement that ACEs tend to co-occur (Nagy et al., 2019). The findings from journal entry one also help to back up this statement. When asked to report on the referring diagnoses given to the participants' patients with ACE, there was a mixture of co-occurring conditions, but not one trauma-specific-type label. It was condensed to either developmental delay and/or sensory processing difficulty.

All occupational therapist that participated in this study reported an increase in their awareness and knowledge of children with ACE. Jennifer reports the following about the educational opportunities: "they allowed me to be more aware to ask these types of questions when completing an interview or during first initial session." She adds that information on ACE is highly under-recognized at her place of employment." Many articles have been discussed within this research that state that patients with ACE often have mental health difficulties, specifically in the area of sensory processing difficulties (Lynch et al., 2017; Bodison & Parham, 2018; Parham, 2017; Pollak, 2008; Harpin, 2016).

Participants of the study concluded that most of their patients that were later identified with ACE came to their occupational evaluation with a referring diagnosis of developmental delay or sensory processing difficulties. Furthermore, difficulties listed on the COPM included emotional regulation difficulties, impulse difficulties and aggression. These identified problem areas reinforce mental health concerns identified by Dombo & Sabatino (2019) and Warner et al., (2013). Mental health in OT is often referred to as self-regulation, self-modulation for interaction with others. Although none of the participants called it mental health, the inference of arousal and alertness through self-regulation is typically how occupational therapists frame this concept in outpatient facilities. Teaching coping strategies becomes an important component for health and well-being.

The findings reported by the study participants match with those found in the literature. What is of concern however, is the therapists are able to label the concerns, yet do not move beyond surface levels of critical thinking to make the connections to the mental health aspects of presenting problems. This study did help promote alternative thinking for the select group of therapists.

Outcome 3: Participating occupational therapists will demonstrate the ability to implement their knowledge by applying the information provided during educational opportunities.

Theme: Connecting the Dots

All participants of the study expressed the ability to apply the information provided during the educational opportunities within their sessions in some way. Many of the participants involved admitted to utilizing the sensory strategies discussed in the opportunities with their patients with a new understanding of their benefits for children with adversity history, demonstrating application of the educational materials provided in the sessions. Three out of four of the participants made a statement regarding their increase in confidence in explaining ACE to caregivers as well as their expertise in implementing specific strategies during the treatment session. Elizabeth stated “I have more confidence in my ability to explain to others why sensory strategies can be successful for kids with trauma, specifically with families. I also feel more confident in explaining ACE to foster/adoptive behaviors with the why of why their kids may be acting in certain ways".

Occupational therapists utilize their expertise to treat children with ACE in many different environments, including early intervention. In this setting, per Barreca (2017), an OT can "model responsive relationships for parents/caregivers in order to foster social-emotional development, reciprocal communication, and safe physical exploration of the environment." Collaboration with caregivers, daycare staff and other team members is also applicable in early intervention to improve self-efficacy for child and family related to "healthy discipline, stress management and positive copying strategies. Within the school environment, occupational therapists can advocate to bring trauma-informed practices within the school setting and collaboration with the teachers to provide resources and support for enhanced self-regulation and socio-emotional development. Within the community, OTs can speak out to raise awareness regarding the prevalence and the impact of ACE on children, advocate and plan for "safe recreational activities in the community to provide opportunities for positive adult modeling and peer social interaction" (Barreca, 2017).

The tools and resources to assist children with ACE are limited or non-existent (Warner et al., 2013). The importance of having trained staff offering support and consultation on the use of sensory integration theory and sensory modulation techniques can offer innovative strategies for improving emotional regulation in children exposed to trauma (Warner et al, 2013). The reported finding from the participants' journals and interviews supports the need for more educated occupational therapists in this realm of care. Participants reported making future plans for better tools and resources for children with ACE. Jennifer discussed the need for an informational handout to be given to families/caregivers regarding ACE and how it relates to sensory processing difficulties and further disruption in activities of daily living. Participants recognized the need for a change to the evaluation template at their specific facility to include a section specifically addressing trauma background.

Tied to MOHO Framework

Within the final interview, all four participants openly reported their motivation as it impacts volition (Taylor, 2017), implementing what they had gained or learned from the education opportunities in treating children with ACE and their desire to change. Participants in the study admit that the current evaluation template at the local pediatric facility does not encourage the discussion of a child's possible ACEs. Therapists follow the procedural routine reinforced by the facility, thus, critical thinking about other conditions may be limited. They habitually do not ask about this background information during the evaluation. They report that having a specific addition added to the current evaluation template may benefit as a reminder to get this information prior to treatment.

Following the implementation of the educational opportunities and per results from the journal entries as well as the final interview, it is concluded that the occupational therapists that participated in this study have gained the knowledge to be able to enhance their performance capacity to treat children with exposure to trauma. The objectives of the capstone project were met. By setting focused objectives for enhancing clinical knowledge, based upon the integration of clinical evidence, practice and competence are dynamic components in health care delivery.

Implications for the Future

Mental health considerations are essential to a person's well-being and relationships with self and others as well as their ability to live a full and productive life (Healthy People 2020, 2018). Researchers of healthcare and healthcare professionals have been advocating for the importance of the use of a sensory approach as worthy avenues to address symptoms of trauma for children (McGreevy & Boland, 2020). Findings in this capstone study reinforce the need for more educated occupational therapist within the area of ACE.

Raising awareness amongst other professions would be beneficial in assisting to connect patients with support services (Crouch et al., 2019). Advocating for increased awareness to enhance detection of the under-lying diagnosis of ACE is an important role for occupational therapy and critical to the well-being of these children. Programs and frameworks based on early recognition of ACEs can contribute in the prevention of a wide range of co-morbidities in relation to both emotional and physical health. Policies, programs and interventions should be based on an in-depth knowledge on the patterns of ACEs and encourage collaboration amongst service providers (Crouch et al., 2019; Roberts, 2019; Nagy et al., 2010. With the appropriate education and knowledge, occupational therapists can have the competence and the confidence to treat these children to assist in enhancing their participation in daily activities; enter ACE: A Recipe for Occupational Competence.

Strengths and Limitations

This capstone project concludes the following: childhood trauma exists, the need for OT is present and ACE: A Recipe for Occupational Competence can help us get there.

By focusing locally, change can happen and reinforce learning as demonstrated in this capstone project. Therapists can support each other's growth through reinforcing occupational competence within the select environment. This study had many strengths that supported these ideas. Although the sample size was small, all participants were motivated to continue their involvement throughout the study. Recording the educational opportunities to be viewed at the leisure and setting of the participant provided a means of convenience for the participants, respecting the habits and routines of the practice setting.

Limitations were also present in the study. The sample size was small (N=4) and all participants were from one specific facility. Having the ability to gain the insight of more participants as well as those from a different facility will increase broader understanding of ACE in a select area. A different limitation of this study was the inability to complete the educational opportunities in person. The requirement of virtual presentations impeded the ability to offer group discussion and/or feedback from the participants.

Conclusion

Vision 2025 envisions occupational therapy as a "powerful, widely recognized, science-driven, and evidenced-based profession with a globally connected and diverse workforce meeting society's occupational needs" (AOTA, 2025). This capstone project demonstrates how focusing at a local level, through educational opportunities, we can change practice, and reinforce Vision 2025 by promoting science-driven, evidence-based practice. Occupational therapists must continue to challenge themselves to explore new conditions that present with similar co-morbidities to those we regularly observe. We must also advocate within facilities to provide documentation options that allow for growth. ACE is a condition that continues to evolve within society. Pediatric occupational therapists must be educationally prepared to respond effectively within outpatient facilities to this silent condition, that impact a child's participation in appropriate activities. By addressing therapists' practice habits and routines, we can make a difference in fostering dynamic occupational competence through the use of volitional components. This capstone project reinforces the need for occupational therapists to consider mental health and well-being in client interventions.

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Appendix A: ACE: A Recipe for Success

Educational Opportunity 1

- ACE- definition and prevalence
- Behavior vs. ACE
- Video
- Introduction of journal prompt

Session 1 journal prompt: Please choose a child on your caseload or from a recent eval with an identified ACE. Please describe the child demographically, a little background on social history if known and add in the concerns that the caregiver gave during the eval or via COPM. Also if you know what the referring diagnosis was, that too may be helpful but not necessary. If you do not currently have a child on your caseload, please complete a case-study utilizing a patient you may remember in the past or a pseudo patient.

Educational Opportunity 2

- Review of journal entry
- Review of sensory processing difficulties
- Sensory strategies for kids with ACEs
- Introduction of journal prompt

Session 2 journal prompt: Make a list of specific sensory processing activities and/or strategies you may utilize for a child with ACE.

Educational Opportunity 3

- Review journal from last session
- Video
- Discussion of video
- Introduction of journal prompt/discussion of follow-up interview

Session 3 journal prompt: Outline a treatment session that you have conducted or may conduct in the future for a child with ACE, utilizing the information gained from the 3 educational opportunities.