Increasing Therapist Knowledge in Trauma-Informed Care

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Abstract

Research surrounding childhood trauma and maltreatment has consistently demonstrated a strong positive correlation between the amount of adverse experiences a child experiences and future physical and mental health consequences, as well as a strong negative correlation between childhood trauma and brain development. Occupational therapists, physical therapists, and speech language pathologists work with children that have endured traumatic experiences on a daily basis. As healthcare professionals that work with these children on their development and skill acquisition, it is critical that they understand the negative impacts of childhood trauma and how to implement trauma-informed practices. This program was created with the intention of increasing therapist knowledge and confidence on identifying traumatic experiences and symptoms, the impact on brain development, and how to plan trauma-informed therapy sessions. The content of this training program was created by completing an extensive literature search in order to provide the therapists with evidence-based knowledge and skills. All formal information was provided throughout two in-service presentations. Fourteen therapists were present at both sessions and used a self-reported rating scale to assess their confidence prior to the training and just following. Following the in-service presentations, a 128% increase in confidence was found, with $p<.001$. Through this training program, the therapists at IU Health Ball Pediatric Rehabilitation gained a basic understanding of the developmental effects of trauma and began to incorporate trauma-informed practices. The results of this study suggest that by providing therapists with two in-service presentations solely dedicated to the effects of childhood trauma and its role in childhood development, their confidence in working with children that have experienced trauma statistically significantly increases.

Chapter I: Introduction

In the past few decades, the rates of childhood trauma, and the resulting widespread negative consequences, have become a large focus of research and treatment development. At the beginning of this century, pediatricians had begun referring to mood disorders, anxiety disorders, adolescent suicide, school violence, and drug and alcohol use as the "newer morbidities" of childhood (American Academy of Pediatrics, 2001). These diagnoses are being called the new morbidities because these mental health diagnoses and violent experiences are killing more children per year than past childhood diseases such as meningococcemia. Research involving childhood trauma and adverse experiences has continually demonstrated a strong positive correlation between the amount of trauma that a child has experienced and these morbidities that are claiming so many lives. The Adverse Childhood Experiences (ACE) study began to show this trend and other researchers have continued to find similar results.

The ACE study was a revolutionary research study that linked the prevalence of ACEs and future health consequences. The adverse experiences included: physical, psychological, or sexual abuse, domestic violence against a mother, or living with a family member with a drug addiction, mental health diagnosis, or ever having been imprisoned. More than half of the individuals that partook in the study reported experiencing at least one ACE and one-fourth reported that they had experienced two or more. The number of individuals reporting these ACEs was significantly higher than expected and demonstrated a trend that ACEs often occur together. Even more shocking was the correlation between the ACE score of an individual and their resulting physical and mental health. It was found that with each additional ACE an individual

reported, their risk and prevalence for risky health behaviors or mental health problems increased (Felitti et al., 1998). The ACE study was just the beginning of the research-backed relationship that is found relating childhood trauma to future maladaptation, mental health disorders, and the leading causes of death in the United States.

The ACE study identified the prevalence of childhood trauma and the resulting widespread effects with the implications of the next step to be training for all healthcare professionals. Training on trauma and the resulting effects is especially important for therapists that help children develop and refine the skills they need to best navigate and participate in their world. If a therapist is able to identify a child that has experienced trauma and understand the physical, emotional, psychological, and behavioral effects that may occur due to that trauma, interventions can be planned to address the underlying effects of trauma while still targeting their goals. Therapists can also better ensure that the child will not be re-traumatized during treatment. The understanding of this need to increase therapist knowledge surrounding childhood trauma was the identified gap in services that created this project at IU Health Ball Pediatric Rehabilitation.

IU Health Ball Pediatric Rehabilitation, located in Muncie, Indiana, houses a rehabilitation team made up of multiple occupational therapists, physical therapists, and speech language pathologists. Muncie has a population of about 68,000 with almost 30% of the population living in poverty. The median household income in 2017 was $32,372 (United States Census Bureau, 2018). Muncie is a city of Delaware County which has some of the highest opioid use in the entire state, with the problem only seeming to continue. In 2015, the numbers of non-fatal emergency room visits due to opioid overdoses almost quadrupled that of two years prior and almost doubled the state average (Indiana State Department of Health). This large drug

problem poses many risks for children living in Muncie. With the increase of opioid use, there has been a subsequent rise in babies born with neonatal abstinence syndrome. The Indiana State Department of Health found that between 2000 and 2012, there was a 5-fold increase in the number of babies that were born addicted to opioids. Another risk of this increase in opioid use is removal from the home and being put into foster care, a traumatic event in itself. From 2000 to 2017, the number of children that were put into foster care due to parental drug use rose 21.73% nationwide (Meinhofer & Angleró-Díaz, 2019). The National Child Traumatic Stress Network (NCTSN) states that children that are taken from their home as a result of abuse or neglect pose a much higher risk of developing mental health problems, especially traumatic stress (2005).

Drug and alcohol abuse amongst caregivers is not the only trauma that children receiving services at IU Health Ball Pediatric Rehabilitation are experiencing. Many of these children have endured physical or sexual abuse, neglect, traumatic injuries, severe medical diagnoses or procedures, the death of loved one, domestic violence, or observed a parent being arrested, among other adverse experiences. This demonstrates a direct need for any healthcare professional that is working with these children to understand the effects of trauma in order to provide them with the best possible care.

The occupational therapists, physical therapists, and speech language pathologists working at IU Health Ball Pediatric Rehabilitation do not have any formal training on trauma informed care (TIC) or trauma informed approaches (TIA). Unfortunately, this is not uncommon. Many therapists fail to utilize TIA when working with families experiencing current or past traumas due to a lack of confidence in TIC execution, fear of causing re-traumatization, or an overall lack of training in TIC (Fette et al., 2019). Given the population of children that these therapists are working with, training on TIC and practices is essential. However, it is important

to note that occupational therapists, physical therapists, and speech language pathologists are not responsible for helping children process their trauma. Rather, they should be aware of trauma and its effects in order to help children develop the skills to better adapt to stressors and learn to participate fully in life. The goal of this capstone project is to provide the therapists working at IU Health Ball Pediatric Rehabilitation with an evidence based in-service training program that teaches them about the physiological and psychological effects of trauma, the resulting behaviors of children that have experienced trauma, and best practices for handling those behaviors while ensuring that a child is not retraumatized during treatment. The desired outcome of this program is to have a clinic full of therapists that feel confident in their ability to identify children that have experienced trauma and implement interventions in a way that supports the child with their specific needs.

Chapter II: Needs Assessment

In order to determine what was lacking from the therapy program at IU Health Ball Pediatric Rehabilitation and how to address it, an interview was completed with an occupational therapist that has been working at the clinic for over 10 years. The interview took place in July of 2019 at their former clinic, Meridian Health Pediatrics. After expressing that TIC education was of vital need due to a lack of formal education in the therapists' program curriculums, the following questions were addressed:

- What types of childhood traumas are common within your clientele?
- How is trauma currently being addressed?
- Is the trauma typically parent reported or observed with the child?
- Are you currently assessing for childhood trauma?
- Would the other therapists be willing to receive training on trauma informed care?

The occupational therapist reported that the most common types of trauma that are seen within their population is parental drug/substance abuse, neglect, physical abuse, sexual abuse, and being put into foster care. Accidental traumas, such as sports related injuries or car accidents, are also seen amongst their clientele. At this point in time, trauma is not being directly assessed by any of the therapists because they are not trained on it. A few of the therapists have attended conferences that had speakers discussing the topic of TIC, but that is the extent of their training.

The therapists working at IU Health Ball Pediatric Rehabilitation have acknowledged the importance of being trained on TIC. They have all expressed interest in the training in order to close the gap in services and to be able to better treat their patients. By compiling the best evidence regarding TIC within the pediatric population and consulting experts in the field, the therapists at IU Health Ball Pediatric Rehabilitation can quickly acquire the skills necessary to begin creating interventions that help children learn to self-regulate and not be retraumatized during therapy.

Best Practices

Before a therapist can address the consequences of trauma, they must first understand what trauma entails. The term trauma encompasses a multitude of events such as accidents, witnessing violence, experiencing the divorce of parents, natural disasters, war, the loss of a loved one or close friend, chronic neglect, and invasive medical procedures (Steele & Malchiodi, 2012). Research indicates that it is common for children to experience more than one type of trauma or the same type of trauma multiple times. This is referred to as complex trauma (Spinazzola et al., 2007). Research has shown that with each type of trauma a child experiences, the likelihood that they will develop high-risk behaviors and functional impairments such as attachment problems, skipping school, substance abuse, suicidality, criminal activity, self-

injurious behaviors, alcohol use, running away from home, and sexual exploitation increases (Layne et al., 2014). Further, Layne and colleagues (2014) found that with each traumatic experience a child is exposed to, the odds ratio that they will partake in high-risk behaviors increases from a range of 6% to 22%. A study by Felitti and colleagues (1998) found that the risk of developing a serious health problem such as becoming a smoker, becoming obese, being physically inactive, becoming depressed, and attempting suicide also increases with additional trauma. This trend of increasing risk with each additional ACE is referred to as a dose response.

Further, complex trauma doesn't only increase the odds of high-risk and serious health problem behaviors, it also affects biological processes, the ability to self-regulate, higher order cognition, and self-concept (Hodgdon et al., 2013). This research demonstrates how widespread and consuming the negative effects of trauma are. In order to prevent or reduce the future consequences of childhood trauma, the trauma itself must be identified and acknowledged so that trauma informed practices can be implemented throughout treatment.

Justification

An occupational therapist's job is to examine all factors of an individual's life and utilize that knowledge in treatment. If childhood trauma experiences are not included in the assessment of an individual's life and incorporated in the treatment plan, that creates a significant gap in services. Many approaches can be taken to treat children that have experienced trauma. These perspectives address family dynamics, institutional environments, cultural concerns, the mind/body connection, creating a safe and empathetic environment to support neural plasticity, build a child's resilience, and create stronger attachments (Steele & Malchiodi, 2012). These environments and factors touch on every single aspect of a child's life and demonstrate how

every health care professional can contribute to the prevention of the negative consequences of trauma and keep a child's development on track and improve their quality of life.

The benefits of addressing trauma and child maltreatment are widespread and extend past the individual. It is not unusual for child maltreatment such as abuse and neglect to be intergenerational, meaning that individuals that were maltreated as children are more likely to maltreat their own children. Just like children that have a supportive adult in their life build resilience, having another supportive adult in a caregiver's life helps to decrease the chances that they will maltreat their children (Schofield et al., 2013). If childhood trauma and maltreatment can be addressed across healthcare disciplines, then the number of children that are maltreated should decrease over time. Researchers have also found that individuals that were maltreated as children are more likely to have low academic achievement and subsequently live in poverty or be unemployed (Metzler et al., 2017). Occupational therapists, speech language pathologists, and physical therapists all have the training to help children gain the skills that they need to succeed in school and accomplish their career and life aspirations.

Further research supporting the benefits that occupational therapists, physical therapists, and speech language pathologists can provide for children that have experienced trauma has been completed by The National Scientific Council on the Developing Child (NSCDC). One focus of NSCDC research has been how children build resilience against stressful experiences. The researchers compare it to a see-saw, with one side holding all of the negative experiences a child has and the other side having all of the positive experiences and skills that a child can use to better handle a stressful situation (The National Scientific Council on the Developing Child [NSCDC], 2015). The occupational therapists, physical therapists, and speech language pathologists at IU Health Ball Pediatric Rehabilitation all have the ability to help children add

new skills to their positive end. They have the training to teach children emotional regulation, healthy decision making, build self-esteem, literacy, communication skills, physical strength and endurance, all of which make children better equipped when dealing with adverse experiences. These therapists play a critical role in the lives of children that have experienced trauma and should be provided with the knowledge that they need to best support these children as they learn and develop.

Without the knowledge of the effects of trauma, the therapists at IU Health Ball Pediatric Rehabilitation cannot provide their patients with the best care. Holly Kiel, along with all of the other therapists working at IU Health Ball Pediatric Rehabilitation, identified this gap in their knowledge and subsequent treatment. The project proposal that was provided to the therapists can be found in Appendix A. The proposal was approved with no revisions.

Chapter III: Literature review

The database PubMed was used when initially searching for research articles. Research that was completed prior to the year 2000 was excluded, with the exception of the ACE study due to it being a foundation of trauma literature. The academic journal Abuse and Neglect was searched to find research that was completed in the past three years. Any article that was found pertaining to childhood trauma, its effects on behavior, future physical and mental health, suggested interventions, or tips for therapists and caregivers were reviewed. Only articles that were peer reviewed were selected. Finally, the two books “The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma” by Bessel Van der Kolk, MD and “The Boy Who Was Raised as a Dog” by Bruce Perry, MD, Ph.D. and Maia Szalavitz were consulted due to the authors prominence in childhood trauma research and the research that is presented in the books.

Throughout the literature, four themes have emerged that help to determine the future outcomes of a child that has experienced childhood trauma: the stage of development when the trauma took place, the duration and frequency of the maltreatment, how many types of trauma were experienced, and relational support. It is increasingly being found that one type of abuse rarely happens in isolation and the truest predictor of future maladaptation is how many types of maltreatment a child experiences and how often (Teicher et al., 2006; Vachon et al., 2015). Many studies looking at childhood trauma and resulting mental health challenges have found significant dose responses as mentioned previously, suggesting that the more trauma a child experiences, the more likely they are to experience future mental health difficulties (Bevilacqua et al., 2021; Perry, 2009).

Defining what experiences are deemed as traumatic can be difficult. One reason causing that difficulty is how individuals perceive an experience. Two people may experience the exact same event and one individual may classify it as having been traumatic and have long-term consequences as a result, while the other person defines it as being upsetting, but has the ability to move on and not have lasting effects. This phenomenon is described by The Substance Abuse and Mental Health Services Administration (SAMHSA) "Three E's of Trauma": Event(s), experience, and effect (2014). Additionally, stress has been defined in three different ways: positive, tolerable, and toxic (Shonkoff et al., 2012). Positive stress is an experience that is typical of childhood and can be made into a learning experience in how to manage emotions and move on from adverse experiences, such as tripping and skinning one's knee on the sidewalk. Tolerable stress is an experience that is more uncommon and poses a higher threat to a child, such as a natural disaster. A child's response to both positive and tolerable stress is mediated by the presence of a caring adult that can help a child's emotions and physiological state return to

homeostasis and understand that the threat has passed. The final type of stress is toxic stress. Finally, toxic stress occurs when the stress response is excessive, often, or for an extended period of time, all in the absence of a caring and supportive adult (Shonkoff et. al, 2012). Many researchers have identified the presence of a calm, supportive adult that is able to attend to a child's needs in the face of threat as the most predictive factor in whether or not a child will have lasting negative effects after a traumatic event (Bellis et al., 2017; De Bellis & Van Dillen, 2005; Hambrick et al., 2018; National Scientific Council on the Developing Child, 2005/2014; Van der Kolk, 2015). Identifying the type of trauma that a child endured is beneficial to being able to properly address that trauma and understand the symptoms that come along with the experience.

Childhood Trauma and the Brain

The brain develops in a hierarchical, bottom-up manor, with the most basic parts of the brain developing first and the most complex developing last. In order for the more complex regions to develop, the lower regions must be functioning properly. Child maltreatment can cause damage to the developing brain even before the baby is born. Prenatal alcohol syndrome is associated with alterations of the hypothalamic-pituitary-adrenocortical (HPA) axis and hyper-responsiveness (Weinberg et al., 2008). The HPA axis is in charge of releasing cortisol, the body's stress hormone, in the body. Amongst individuals that have experienced childhood trauma, their HPA axis is often overreactive, being activated too easily and for too long. (Perry, 2009). This over responsiveness of the HPA axis can cause damage to the body, as well as to social relationships as children might perceive a neutral interaction as being threatening and respond as though they are in danger (McCrory, 2020; NSCDC, 2014).

Another developmental change is seen in the route a potential threat takes through the brain. There are two paths the thalamus takes to send sensory information throughout the brain: a

quick path that goes straight to the amygdala, a brain region associated with fear and anger, and a slower path that goes to the frontal lobes, the part of the brain associated with higher order processing and reasoning. These two paths are important in a child that has experienced trauma because the amygdala receives the input first which can launch a child into fight, flight, or freeze before they even realize what is happening (Van Der Kolk, 2015). During the stress response, the brain takes over for survival and blood flow to the limbic system is decreased (Perry, 2009). This makes it difficult for a child to understand why they are behaving the way that they are.

In cases of severe neglect where children are not receiving the input that they need, their brain may prune connections to those neglected brain regions and they may atrophy and die (McLaughlin et al., 2014; Vela, 2014). This can cause difficulties with gross and fine motor control, higher order processing, goal directed behavior, attention, memory, and emotional regulation. According to the Nuerosequential Model of Therapeutics created by Bruce Perry (2009), the age of which a child was maltreated is important to know when creating interventions because the brain may have stopped developing at that age, requiring treatments to be based on their development age instead of their chronological age. While these changes in brain development may appear discouraging, the brain is plastic and continues to develop through the early 20s. This suggests that the earlier treatment is provided with continued repetitions and reinforcement at home, the better the brain can make new connections, allowing the children to succeed despite their early adversities.

Chapter IV: Project Design and Leading Model

SAMHSA created six core principles for a trauma-informed approach: Safety, trustworthiness and transparency, peer support, collaboration and mutuality, empowerment, voice and choice, and cultural, historical, and gender issues (2014). Van der Kolk also asserts that treatment with traumatized children need to be built upon activities that are safe, predictable,

and fun, all while giving the child a sense of control (Van der Kolk, 2005). Combining these trauma informed principles with the Person-Environment-Occupation-Performance (PEOP) model (Law et al., 1996) is the guiding basis for this project. The PEOP model examines all parts of the child, including their physiological and psychological states, sensorimotor abilities and thresholds, and how these factors affect an individual's perception and interaction with their environment. A child that has a hyperresponsive stress response due to a traumatic experience is constantly scanning their environment for threats. Assessing their environments for danger takes all of their brain power and attention, reducing their short-term memory capacity and ability to learn. This in turn reduces their ability to connect socially with peers and caregivers as they are also assessing their body language, facial expressions, and vocalizations for aggression.

The PEOP model doesn't only examine how a child's personal factors impacts their interaction with the environment, but also how the environment that a child is in affects their behaviors and participation. Triggers are sensory stimuli within the environment that can cause a child's fight, flight, or freeze response to be activated, demonstrating the need for their environment to be adapted to make them feel at ease (Petrenchik & Weiss, 2015). As a result, having a safe and supportive environment that actively works to remove a child's identified triggers is crucial to their ability to function in daily living. According to a NCTSN survey, only 69 percent of agencies working with traumatized children ask about the length of the trauma and only 47 percent inquire about the child's triggers or reminders (2005). Including this information in treatment is essential to provide the child with an environment where they can feel safe enough to participate in therapy and not trigger a traumatic response.

Another factor to consider when creating a safe environment is the child's level of arousal. When a child has been severely traumatized, they can present with arousal dysregulation

or sensory processing disorder, similar to that of children with diagnoses of Autism Spectrum Disorder, with hypersensitivity to sound, touch, and movement (Koomar, 2009). Sensory input can trigger hormone secretion, instantly sending their body into a stress response before they have had time to consciously process the stimuli (Van der Kolk, 2005). Providing traumatized children with a room that presents with little visual stimuli, calming noises such as white noise or classical music, and soft objects to provide proprioceptive input can help a child remain calm and decrease the risk of re-traumatization.

When it comes to intervention, play is frequently acknowledged as a child's primary occupation. That is why pediatric occupational therapists, physical therapists, and speech language pathologists often design their treatments around play. Pretend play can help to enhance problem-solving skills because it provides children with a means to experiment with different responses, roles, and emotions without the consequences of acting them out in real-life (Cooper, 2000). However, for children that have experienced trauma, they may not be interested in playing. Simply put, feeling safe is the most basic requirement for a child to play. If there is no sense of safety, the child will not play (Cooper, 2000). Children with trauma histories are sometimes described as preferring to play independently, having chaotic, repetitive play patterns, difficulty participating in sustained play, being highly reactive to others due to misperceptions, and underdeveloped play styles (Ryan et al., 2017). These play patterns can make it difficult for children to interact with their peers, their community, and within the therapy activities. Incorporating neutral, fun tasks into therapy gives the child a sense of safety to explore their environment and provides them with a sense of what being calm and in control feels like. Using rhythmic and repetitive movements in play is suggested to help target and reorganize the lower brain regions (Van der Kolk, 2005).

The final portion of this project is caregiver and family education and inclusion. Including the entire family and having a large focus of family advocacy and providing the family with the voice to make decisions regarding their child's treatment helps to create family buy in and promote healing (Fette et al., 2019). As mentioned previously, it is increasingly being shown that having a trusted and responsive adult there with a child when they experience a stressful or traumatic event is crucial for returning the child's hormones to a regular level and reducing the chance of the event causing any lasting psychological or physiological damage (Shonkoff et. al., 2012). It is not uncommon for traumatized children to experience attachment difficulties, particularly with their primary caregiver. Treatment should include this caregiver and help create an intimate bond between the child and caregiver through enjoyable sensorimotor activities (Koomar, 2009). By including the caregiver in treatment, the whole family can begin to heal and learn skills to utilize outside of therapy.

Research continues to be published that describes the negative effects of childhood trauma and potential interventions for working with these children. At IU Health Ball Pediatric Rehabilitation, the next step in providing the children with the best, most well-rounded care is TIC education for all therapists and staff members. Therefore, the purpose of this project was to delve into the literature and provide each therapist with the most pertinent information regarding the children that they work with and tips for working with them. By doing so, the positive results could extend beyond the child and reach to the community and future generations.

Chapter V: Project Plan and Process

The primary area of focus for this project was education. By doing a thorough review of pertinent TIC literature, an in-service training program was created to further educate the therapists at IU Health Ball Pediatric Rehabilitation on the effects of childhood trauma. When creating the basis for this project, the objectives and outcomes centered around a primary goal of

increasing therapist knowledge and confidence in utilizing trauma-informed practices in order to provide the best care possible to all children. The following project objectives and outcomes were created to design and assess the effectiveness of the program:

Objective #1: Examine the current literature and best practices surrounding TIC with children in order to find the most relevant data.

Objective #2: Summarize the data into a concise training program to provide the therapists with the necessary information to understand childhood trauma and its effects.

Objective #3: Collaborate with other health care professionals working in TIC in order to create connections for consultation.

Objective #4: Compile a binder of the most relevant research and resources to leave at the clinic in order to provide therapists with a means to quickly access trauma-informed information when necessary.

Objective #5: Create handouts to provide caregivers with information surrounding their child's trauma and how to support them in their healing and development.

Outcome goal #1: Within 1 week of program implementation, therapists will implement their knowledge of trauma-informed care in their sessions with children with known trauma histories, as evidenced by their active effort to resist re-traumatization through their careful treatment planning.

Outcome goal #2: Within 1 week of program implementation, therapists will utilize a sensorimotor activity with a child that is beginning to dysregulate in order to bring their body back into a calm state and resist re-traumatization.

Outcome goal #3: Within 2 weeks, therapists will implement their knowledge on trauma-informed assessments as evidenced by using at least one new assessment on a client with a trauma history.

Outcome goal #4: By the end of program implementation, therapists will be fully trained on use of the provided binder to quickly access research pertaining to their practice and resources to provide caregivers, in order to create a sustainable trauma-informed program.

Outcome goal #5: Within 2 weeks of program implementation, therapists will explain the impacts of trauma to one caregiver and provide them with tips on how to support their child in order to increase developmental gains and reinforcement at home.

Further information regarding the original student plan goals and objectives can be found in appendix B.

The information presented in the in-service was intended to provide the therapists at IU Health Ball Pediatric Rehabilitation with knowledge and skills that they can use in order to better serve their patients with childhood traumatic experiences. To develop a training program and compile resources for the therapists that would help them to better serve their specific patient population and specific needs, children with known trauma histories were observed. This was done in order to observe the type of traumas typically seen at the clinic and the resulting behaviors and deficits. Observing therapists also provided insight into what types of interventions were typically utilized and where potential gaps in knowledge regarding trauma-informed practices may be. These observations helped to provide direction on the type of evidence-based literature that would be most beneficial as well. Along with observations, informal conversations were held frequently with the therapists working with these children in

order to discuss what they believed would be the most beneficial information to learn when creating and implementing interventions.

When discussing gaps in knowledge with therapists prior to the training, it became apparent that confidence on calming a child down in a trauma-sensitive manor was a source of apprehension. As a result, tips and activities that can be used to continuously provide sensory stimulation to prevent dysregulation were woven throughout the entire presentation, as well as tips and activities for when a child began to demonstrate signs of dysregulation. Case studies involving children at the clinic were also included based on therapist request. Children with known trauma histories were observed at the clinic, their diagnoses and specific types of maltreatment researched, and the therapists provided with recommendations on ways to personalize interventions to address their needs. The remainder of the information discussed in the in-service presentations was based on recurring themes found in research on the most important information regarding trauma and how best to support these children in their development.

Following therapist discussion and an extensive literature review, the first in-service focused on general information regarding childhood trauma. The main topics were important definitions of trauma including specific types and their developmental effects, risk factors for experiencing childhood trauma, a review of the ACE study, the neuroscience behind trauma and how it effects brain development, and the importance of relational support along with how to support caregivers. The specific types of trauma and maltreatment that were discussed aside from abuse and neglect were the trauma of the NICU, foster care, prenatal alcohol exposure, and shaken baby syndrome. These forms of maltreatment and trauma were selected to discuss in more detail based on the population of children seen at the clinic and what diagnoses are

commonly seen. Specific brain regions and the damage that occurs after childhood trauma or neglect were chosen in order to provide therapists with a better understanding of why the children might be behaving the way that they do and how best to create interventions that target their current level of development and help to support further growth. The primary brain regions that were chosen to be discussed are the ones responsible for functions that occupational therapy, physical therapy, and speech language pathology typically address. These include functions such as fine and gross motor, balance, speech fluency, sensory integration, and more. Finally, tips to provide to caregivers of children with trauma histories were discussed in order to support the caregivers' mental health and reinforcement of skill development at home.

The second session went into more detail for how occupational therapists, physical therapists, and speech language pathologists can implement trauma-informed principles into their treatment sessions, what assessments and interventions can be used, how to identify and prevent vicarious trauma, tips from other professionals utilizing TIC in their treatments, and resources for continuing education. While there are not many trauma specific interventions for occupational therapy, physical therapy, or speech language pathology, the evidence-based interventions discussed were selected based on the skills that they address. Interventions focused on improving self-regulation and emotion identification were a large focus as that is suggested to be one of the first and most important skills a child needs to learn before progressing to higher level brain regions (Perry, 2009; Van Der Kolk, 2005). Other interventions to teach coping mechanisms and positive social interaction skills were crucial to discuss as well as these skills can help children to better handle future adversities and develop healthy peer relationships. Tips from therapists currently implementing trauma-informed practices were included in the presentation in order to provide the therapists at IU Health Ball Pediatric Rehabilitation with

advice and tips that are effective within their population. These therapists also helped to create a network of professionals that can help provide consultation when working with a child that experienced a traumatic event. Finally, the presentation included an extensive search on continuing education courses discussing trauma-informed care and topics that are appropriate for occupational therapist, physical therapists, and speech language pathologists. This provided the therapists with a resource to easily find more information to reinforce what was learned through this project as well as learn new information that continues to build upon their trauma-informed knowledge.

Chapter VI: Project Implementation

The participants in this study were the therapists and staff working at IU Health Ball Pediatric Rehabilitation. The staff included four occupational therapists, four physical therapists, six speech language pathologists, one rehabilitation tech, one occupational therapy student, and one physical therapy assistant student. There were no exclusion criteria for this study, anyone working at the clinic that believed the information could benefit them and the clientele at the clinic could participate. There was no recruitment process for the participants, as all therapists and most staff members in the clinic agreed to participate because they all identified a need for the training. No outside therapists were recruited. An IRB review was not required.

The participants in the study were provided with an in-service training program on trauma-informed care. The information was presented over two sessions, one week apart during the staff lunch break. A total of four in-service presentations, both sessions being repeated once, were completed in order to ensure all therapists were able to attend. Information was provided to the therapists via a Microsoft Powerpoint slideshow.

The first week of the project was spent becoming acquainted with the clinic, therapists, and children with known trauma histories in order to better understand the need for a trauma-

informed training program. The following two weeks were spent completing a comprehensive literature search. The search engines PubMed and PsychInfo were used for this search, utilizing keywords such as trauma, trauma-informed, childhood trauma, ACEs, and maltreatment. Articles were assessed on their relevance to occupational therapy, physical therapy, and speech language pathology. The following 10 weeks were spent combing through the literature, reaching out to professionals utilizing trauma-informed practices, developing the in-service presentations, and continuing observations. As the presentation information came together, the pre- and post-test assessments were created in order to ensure that the main topics of the presentation were adequately discussed. The in-services were provided twice on weeks 13 and 14. Further advanced knowledge and skill was gained weeks 11-14 as observations began in the NICU, another form of childhood trauma that was addressed in this project. The final week of the project was spent finalizing the binder and continuing observations.

Evaluation Plan

In order to evaluate the effectiveness of the training program, a pre-test and post-test were provided to the therapists. The pre-test was completed immediately prior to the training and the posttest immediately following the training. The pre- and post-tests were designed to be based on Abt Associates Participant Survey Scales for a Cross-site Evaluation of the National Training Initiative on Trauma-Informed Care (TIC) for Community-Based Providers from Diverse Services Systems (Smith, 2014). The tests consisted of 14 questions regarding topics that were directly discussed throughout the training. The therapists were instructed to rate their confidence on the topic. The coding system utilized a Likert scale in order to quantify the responses, with a scale of 1-5 with 5 being not at all confident and 1 being extremely confident. Possible scores range from 14 to 70. A lower score conveyed higher therapist confidence on the

given topic. The primary objective of the pre- and post-test was to assess knowledge and confidence of trauma-informed principles and practices prior to the training with the goal of a statistically significant lower score in the posttest, signifying that confidence and knowledge had increased. A survey with open-ended questions was also created for the posttest in order to receive further feedback on the programs design and content. The pre-, post-test, and survey can be found in Appendix D.

Results

Seventeen therapists were present for at least one in-service presentation. However, only the therapists that were present in both presentations had their scores included. This was due to information in both presentations being assessed in the pre- and post-test and missing a presentation would cause a skewed result in confidence scores. Fourteen therapists' responses were included in the results. Microsoft Excel was used to complete a two-tailed t-test. The average results of the pre- and post-test can be found in Table 1. The average confidence scores for the pre- and post-test were 3.71 and 1.69, respectively, with a $p<.001$. These scores demonstrate a 128% increase in therapist confidence directly after receiving both in-service presentations.

Table 1.

Pretest Mean (SD)	Posttest Mean (SD)	Mean Difference
3.71 (0.45)	1.69 (0.33)	2.02***

*** = $p < .001$

Regarding the open-ended survey on the posttest, every therapist said that they are interested in learning more about trauma-informed care and that all therapists should receive

training on trauma-informed care. Common themes emerged amongst therapists with regards to their opinions on what the most important information discussed during the presentations: how to identify when a child is becoming dysregulated, how to better plan an intervention that supports brain development and actively removes triggers, and methods for bringing a child back to a calm state after dysregulation. Only two suggestions for information that would have been helpful to include in the presentations were provided: social worker resources and specific examples or scenarios of what it would look like in a treatment session if a child became dysregulated.

Chapter VII: Discussion

Based on the results of the pre- and post-test assessments, these presentations were effective in increasing therapist knowledge and confidence in identifying and working with children that have experienced trauma. The results of the open-ended survey suggest that the therapists all found the training to be effective and applicable to their practice and agree that all therapists should have a similar training. Multiple therapists made specific plans for how they are going to adapt their interventions when working with children with trauma histories, further demonstrating that the information provided is easily applicable to the therapists' practices. Many therapists also reported in the survey how beneficial having this knowledge will be when planning treatment sessions and working with children with known trauma histories.

In an effort to create a sustainable program, the presentation was recorded so that it could be shared with future therapists that are hired. A binder of information and handouts was also created and provided to the clinic for quick reference. Research articles that directly apply to the therapists' practice were compiled for the binder, as were tips for handling a dysregulated child. Handouts were created and included in the binder that can be provided to caregivers to inform them of the effects of trauma and how to support their child in their recovery and development. It

has been suggested that without the knowledge of what to expect when caring for a child that has experienced trauma, a caregiver may misinterpret behaviors and may address behaviors in a harmful way (Child Welfare Information Gateway, 2014). These handouts can be found in Appendix C. Other caregiver information handouts were selected to include in the binder as well and were either provided by other professionals in the field or found online through reputable sources. The binder was left in the therapy office to provide therapists with a quick way to reference evidence-based research and resources.

This project has the ability to impact every individual involved in IU Health Ball Pediatric Rehabilitation. In order for a child's brain to develop and change after trauma, a multidisciplinary approach including caregiver support is necessary (Ryan et al., 2017). This program was designed specifically to teach the occupational therapists, physical therapists, and speech language pathologists how they can work together to plan trauma-sensitive interventions and how important each of their roles are. The therapists were also trained on how to support caregivers, as well as provided with information to provide the caregivers with. By coaching multiple important adults in a child's life on the effects of trauma and trauma-informed care, the child's specific needs can be identified and met, leading to continued successful development and skill acquisition.

A few limitations on the study exist. First, the sample size was relatively small and made up of a population of entirely women of similar racial, education, and demographic backgrounds. This makes the results difficult to generalize to large populations of practicing therapists across the country of varying demographics. Further, due to the nature of a self-report assessment, a response bias cannot be ruled out due to the therapists potentially reporting a higher confidence rating on the posttest knowing that that is the desired outcome. However, these therapists did

receive formal education on response biases, potentially reducing the effects. Further research should be conducted across the country in locations of differing socioeconomic status and with therapists of varying demographics and experience in order to validate the efficacy of the in-service presentations and information. Future research on this presentation and increasing therapist confidence and knowledge should include the information that was suggested from participants in the posttest surveys.

Chapter VIII: Conclusion

With the expansive amount of research demonstrating how pervasive childhood trauma and maltreatment is, knowledge on trauma-informed care is crucial for any therapist working with children. This project was designed with the intention of providing the therapists at IU Health Ball Pediatric Rehabilitation with a basic knowledge on trauma-informed care, resulting in increased confidence in working with children with trauma histories. The project outcomes were to increase therapist confidence in being able to identify a child that has experienced trauma, understand some of the implications for brain development, and create an intervention that is sensitive to their triggers and developmental needs. Fette and colleagues (2019) found that one of the most commonly seen reasons that a therapist fails to utilize trauma-informed practices is due to a lack of training and confidence. The in-service presentations were specifically designed to provide tips and information that are directly applicable to occupational therapy, physical therapy, and speech language pathology in order to remove this barrier to providing trauma-informed care. This study suggested that providing therapists with two in-service presentations describing trauma, it's impact, and ways that therapists can implement trauma-informed practices was effective in increasing therapist knowledge and confidence in implementing a treatment plan. Future research is needed in order to expand the population and

demographics of therapists receiving the training in order to prove program efficacy and providing optimal care for childhood trauma.

References

Bellis, M., Hardcastle, K., Ford, K., Hughes, K., Ashton, K., Quigg, K., & Butler, N., (2017). Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences- a retrospective study on adult health-harming behaviors and mental well-being. *BioMed Central Psychiatry 12(110)*. 10.1186/s12888-017-1260z.

Bevilacqua, L., Kelly, Y., Heilmann, A., Priest, N., & Lacey, R., (2021). Adverse childhood experiences and trajectories of internalizing, externalizing, and prosocial behaviors from childhood to adolescence. *Child Abuse & Neglect, 112*. http://doi.org/10.1016/j.chiabu.2020.104890

Briggs-Gowan, M., Carter, A., Clark, R., Augustyn, M., McCarthy, K., & Ford, F., (2010). Exposure to potentially traumatic events in early childhood: differential links to emergent psychopathology. *The Journal of Child Psychology and Psychiatry, 51(10)*, 1132-1140. https://doi-org.proxy.ulib.uits.iu.edu/10.1111/j.1469-7610.2010.02256.x.

Child Welfare Information Gateway (2014). Factsheet for families: Parenting a child who has experienced trauma. https://childwelfare.gov.

Committee on Psychosocial Aspects of Child and Family Health (2001). New morbidity revisited: A renewed commitment to Psychosocial aspects of pediatric care. *Pediatrics, 108(5),* 1227-1230. https://pediatrics.aappublications.org/content/108/5/1227

Cooper, R., (2000). The impact of child abuse on children's play: a conceptual model. *Occupational Therapy International, 7(4)*, 259-276. https://doi.org/10.1002/oti.127

De Bellis, M., & Van Dillen, T., (2005). Childhood post-traumatic stress disorder: An overview. *Child and Adolescent Psychiatric Clinics of North America, 14(4),* 745-772. https://doi.org/10.1016/j.chc.2005.05.006.

Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., Koss, M., & Marks, J., (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the adverse childhood experiences (ACE) study. *The American Journal Of Preventive Medicine, 14 (4),* 245-258.

Fette, C., Lambdin-Pattavina, C., & Weaver, L., (2019). Understanding and applying trauma-informed approaches across occupational therapy settings. *American Occupational Therapy Association*. https://www.aota.org/~/media/Corporate/Files/Publications/CE-Articles/CE-Article-May-2019-Trauma.pdf

Hambrick, E., Brawner, T., Perry, B., Brandt, K., Hofmeister, C., & Collins, J., (2018). Beyond the ACE score: Examining relationships between timing of developmental adversity, relational health and developmental outcomes in children. *Archives of Psychiatric Nursing, 33*, 238-247. http://doi.org/10.1016/j.apnu.2018.11.001

Hodgdon, H., Kinniburgh, K., Gabowitz, D., Blaustein, M., & Spinazzola, J., (2013). Development and Implementation of Trauma-Informed Programming in Youth Residential Treatment Centers Using the ARC Framework. *Journal of Family Violence, 28(*6), 535-634, doi: 10.1007/s10896-013-9531-z.

Koomar, J., (2009). Trauma- and attachment-informed sensory integration assessment and intervention. The American Occupational Therapy Association Special Interest Section Quarterly.

Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L., (1996). The Person-Enviornment-Occupation Model: A transactive approach to occupational performance. Canadian Journal of Occupational Therapy, 63(1), 9-23. http://dx.doi.org/10.1177/000841749606300103

Layne, C., Ostrowski, S., Reading, S., Briggs, E., Fairbank, J., Greeson, J., Kim, S., Vivrette, R., & Pynoos, R., (2014). Links Between Trauma Exposure and Adolescent High-risk Behaviors: Findings from the National Child Traumatic Stress Network Core Data Set. *Psychological Trauma Theory Research Practice and Policy, 6*. S40-S49, doi:10.1037/a0037799

McCory, E., (2020). The guidebook to childhood trauma and the brain. UK Trauma Council. https://uktraumacouncil.org/wp-content/uploads/2020/09/CHILDHOOD-TRAUMA-AND-THE-BRAIN-SinglePages.pdf

McLaughlin, K., Sheridan, M., & Lambert, H., (2014). Childhood adversity and neural developmental: deprivation and threat as distinct dimensions of early experience. Journal of Neuroscience and Biobehavioral Review, 47, 578-591. 10.1016/j.neubiorev.2014.10.012

Meinhofer, A., & Angleró-Díaz, Y., (2019). Trends in Foster Care Entry Among Children Removed From Their Homes Because of Parental Drug Use, 2000 to 2017. *Journal of the American Medical Association, 173, (9)*, 881-883. doi:10.1001/jamapediatrics.2019.1738

Metzler, M., Merrick., M., Klevens, J., Ports, K., & Ford, D., (2017). Adverse childhood experiences and life opportunities: shifting the narrative. *Children and Youth Services Review, 72,* 141-149. http://dx.doi.org/10.1016/j.childyouth.2016.10.021.

National Scientific Council on the Developing Child (2005/2014). Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper 3. Updated Edition. http://www.developingchild.Harvard.edu.

National Scientific Council on the Developing Child (2015). Supportive relationships and active skill-building strengthen the foundations of resilience: Working Paper 13. http://www.developingchild.harvard.edu

Perry, B., (2009). Examining child maltreatment through a neurodevelopmental lens: clinical applications of the neurosequential model of therapeutics. *Journal of Loss and Trauma, 14*, 240-255. 10.1080/15325020903004350

Petrenchik, T., & Weiss, D., (2015). Occupational Therapy's Role in Mental Health Promotion, Prevention, & Intervention with Children and Youth; Childhood Trauma. *The American Occupational Therapy Association Mental Health Toolkit.* https://www.aota.org/~/media/Corporate/Files/Practice/Children/Childhood-Trauma-Info-Sheet-2015.pdf

QuickFacts, Muncie city, Indiana (2018). Retrieved from https://www.census.gov/quickfacts/munciecityindiana

Ryan, K., Lane, S., & Powers, D., (2017). A multidisciplinary model for treating complex trauma in early childhood. *International Journal of Play Therapy, 26(2),* 111-123. http://dx.doi.org/10.1037/pla0000044

Schofield, T., Lee, R., & Merrick, M., (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: A meta-analysis. *Journal of Adolescent Health, 53*, S32-S38. http://dx.doi.org/10.1016/j.jadohealth.2013.05.004.

Shonkoff, J., & Garner, A., The Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Car, and Section on Developmental and Behavioral Pediatrics (2012). The lifelong effects on early childhood adversity and toxic stress. *Pediatrics, 129(1*), 232-246, 10.1542/peds.2011-2663

Smith, A., (2014). Participant survey scales: Cross-site evaluation of the national training initiative on trauma-informed care (TIC) for community-based providers from diverse service systems. Abt Associates.

Spinazzola, J., Cloitre, M., Cook, A., & Kagan, R., (2007). Complex Trauma in Children and Adolescents. *Focal Point*, 4-8.

Steele, W., & Malchiodi, C., (2012). Trauma-Informed Practices With Children and Adolescents. New York, New York: Routledge. https://doi.org/10.3928/00485713-20050501-06

Stenman, K., Christofferson, J., Pierce, J., Schifano, E., Klaff, S., Deatrick, J., Alderfer, M., Kelly, C., Sciolla, J., & Kazak, A., (2019). Integrating Play in Trauma-Informed Care: Multidisciplinary Pediatric Healthcare Provider Perspectives. American Psychological Association, 16(1), 7-15. Doi: 10.1037/ser0000294

Substance Abuse and Mental Health Services Administration Trauma and Justice Strategic Initiative (2014). SAMHSA's concept of trauma and guidance for a trauma-informed approach. U.S. Department of Health and Human Services. https://ncsacw.samhsa.gov/userfiles/files/SAMHSA_Trauma.pdf

Sugaya, L., Hasin, D., Olfson, M., Lin, K., Grant, B., & Blanco, C., (2012). Child physical abuse and adult mental health: A national study. *Journal of Traumatic Stress, 25(4),* 384-392. doi:10.1002/jts.21719.

Taylor, N., & Siegfried, C., (2005). Helping children in the child welfare system heal from trauma: a systems integration approach. The National Child Traumatic Stress Network. https://www.nctsn.org/sites/default/files/resources//helping_children_in_child_welfare_heal_from_trauma_systems_approach.pdf

Teicher, M., Samson, J., Polcari, A., & McGreenery, C., (2006). Sticks, stones, and hurtful words: relative effects of various forms of childhood maltreatment. *American Journal of Psychiatry, 163(3)*, 993-1000. 10.1176/ajp.2006.163.6.993

Vachon, D., Krueger, R., Rogosch, F., & Cicchetti, D., (2015). Different forms of child maltreatment have comparable consequences among children from low-income families. *Journal of American Medical Association Psychiatry, 72(11)*, 1135-1142. 10.1001/jamapsychiatry.2015.1792.

Van der Kolk, B., (2005). Developmental Trauma Disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals, 35(5),* 401-408.

Van Der Kolk, B., (2015). The body keeps the score: Brain, mind, and body in the healing of trauma. Penguin Books.

Appendix A

SCHOOL OF HEALTH AND HUMAN SCIENCES
DEPARTMENT OF OCCUPATIONAL THERAPY

Doctoral Capstone Experience and Project Concept Proposal

Doctoral Capstone Student Name	Haley Conrady
Site and Contact Information	Meridian Pediatric Health 205 N Tillotson Ave Muncie, IN 47304 Holly Kiel, MS, OTR Holly.kiel@meridianhs.org (765) 254-9717
Primary Area of Focus	Education
Doctoral Capstone **Purpose**	The purpose of my doctoral capstone is to provide education to the therapists at Meridian Pediatric Health, including occupational, physical, and speech therapists, on how to assess and treat children with traumatic histories. At Meridian Health Pediatrics, the therapists treat children living with caregivers that have substance abuse disorders. They also treat children that have experienced abuse or neglect. Accidental traumas such as traumatic brain injuries acquired after a car accident or sporting accident are also commonly seen at Meridian Health Pediatrics. The goal of this project is to support a sustainable trauma informed approach by providing the tools to gather the information necessary to address trauma in therapy interventions.
Student Learning Outcomes for the Doctoral Capstone Experience	1) Demonstrate the ability to integrate relevant science and theoretical perspectives of trauma informed care into the occupational therapy process. 2) Demonstrate the ability to apply principles of evidenced based and evidence informed decision making in professional practice to improve and expand the delivery trauma informed care. 3) Demonstrate entry-level competencies in providing client centered, inclusive, equitable, and research informed care within the pediatric, trauma exposed population.

(Initial) **Concept** for the Doctoral Capstone Project	After completing the needs assessment and reviewing the literature, my project will focus on educating the therapists at Meridian Health Pediatrics on how to identify, assess, and treat trauma. A book by William Steele, the founder and past director of the National Institute for Trauma and Loss in Children and Cathy Malchiodi describes in-depth what all defines a traumatic childhood event, ways that treatment can be approached, and discusses research regarding childhood trauma (2012). The plan for this project is to begin by completing a comprehensive literature review in order to provide the therapists with the signs to look for in children that may have experienced trauma and how to assess for it. The literature review will also provide the therapists with best practices for how to treat the trauma itself. A search for experts in the field will also be completed and they will be asked to donate their time with a guest online lecture. This will help to provide specific case examples of children with trauma and how they were treated.
(Initial) **Concept** for evaluation of project success	Given that none of the therapists at Meridian Health Pediatrics have any training on trauma informed care, a pre- and post- test will be created in order to assess knowledge and confidence gained throughout the program. The therapists will rate their confidence levels of identifying and treating trauma prior to any education and they will take the exact same assessment at the conclusion of the program.
Theory/Model to Guide the Doctoral Capstone	For this project, the Person-Environment-Occupation-Performance (PEOP) model will be the guide. The PEOP model focuses on how an individual's personal characteristics and environment interact to affect their ability to participate. For children that have experienced trauma, having a safe and supportive environment is critical to their ability to function in daily living. Triggers within the environment can cause a child's fight, flight, or freeze response to be activated, so their environments need to be adapted to make them feel comfortable (Petrenchik & Weiss, 2015).
References	Petrenchik, T., Weiss, D., (2015). Occupational Therapy's Role in Mental Health Promotion, Prevention, & Intervention with Children and Youth; Childhood Trauma. The American Occupational Therapy

	Association Mental Health Toolkit. Retrieved from https://www.aota.org/~/media/Corporate/Files/Practice/Children/Childhood-Trauma-Info-Sheet-2015.pdf Steele, W., Malchiodi, C., (2012). Trauma-Informed Practices With Children and Adolescents. New York, New York: Routledge.

Appendix B

SCHOOL OF HEALTH AND HUMAN SCIENCES
DEPARTMENT OF OCCUPATIONAL THERAPY

Student Learning Plan for the Doctoral Capstone: Experience and Project

OTD Capstone Student:
Primary Area of Focus: Education
Secondary Area of Focus (may or may not have this secondary area): N/A

OTD Capstone Student Roles and Responsibilities:

- *Being **self-directed** throughout the entire doctoral capstone process including; developing, planning, and completing the capstone experience and project*
- *Working collaboratively with the site mentor and capstone coordinator/faculty to create individual learning objectives for the doctoral experience that are in alignment with the OT Program student outcomes*
- *Working collaboratively with the site mentor and capstone coordinator/faculty to create specific goals and objectives for the capstone project*
- *Completing a needs assessment, literature review, and evaluation plan that aligns with the curriculum design prior to the start of the capstone experience*
- *Collaborating with the site mentor on a plan for mentorship*
- *Ensuring that the Student Learning Plan (or Memorandum of Understanding MOU) is collaboratively developed and signed by student, site mentor, faculty mentor, and capstone coordinator*
- *Obeying all policy and procedures of the facility unless exempted, including prompt notification of absences*
- *Fulfilling all duties and completing all assignments made by the site mentor, unless exempted, within the time limit specified*
- *Completing all assignments per T880 and T830 course syllabi including; bi weekly on-line discussions, synthesizing knowledge as demonstrated by completion of a midterm and final capstone report, and at minimum dissemination of project at the IU OT Doctoral Capstone Presentation Forum*
- *Completing 560 hours during the 14 week doctoral experience and documenting these hours on CORE; at least 80% onsite, all absences must be made up*
- *Evaluating the site mentor and site to help continue to improve educational outcomes*
- *Keeping open lines of communication with the site mentor, faculty mentor, and doctoral capstone coordinator*

Site Name and Address:

Meridian Pediatric Health 205 N Tillotson Ave. Muncie, IN 47304

Site Mentor Name and Contact Information:

Holly Kiel, MS, OTR

Holly.kiel@meridianhs.org

(765) 254-9717
Site Mentor Credentials and Area of Expertise (ACOTE D.1.6): MS, OTR, Pediatrics

Site Mentor Roles and Responsibilities:

- *Providing expertise in the student's area of focus (**the site mentor does not have to be an OT**)*
- *Providing resume to IU to verify expertise*
- *Providing orientation to the site, site personnel, and stakeholders*
- *Collaborating with the student to develop individual learning objectives for the DC experience and specific goals and objectives for the DC project*
- *Evaluating the student at the midpoint and the conclusion of the DC experience*
- *Working collaboratively with the student on developing a plan for mentorship and providing mentorship to the student as agreed upon in the Student Learning Plan (MOU)*
- *V erifying student hours completed on CORE*
- *Notifying the doctoral capstone coordinator if problems arise and collaborate with the student, doctoral capstone coordinator, and faculty Mentor on plan of correction*

Faculty Mentor:

Faculty Mentor Roles and Responsibilities:

- *Collaborating to ensure the DC experience and project is consistent with the IU OT Program Curricular design*
- *Collaborating with the student and capstone coordinator to ensure the Student Learning Contract is developed and includes; individual student learning objectives for the DC experience and specific goals and objectives for the DC project*
- *Grading the midterm and final capstone report*
- *Keeping in bi-weekly contact via an on-line discussion board during the DC experience*
- *Providing feedback during the final DC experience and project presentation and poster presentation development*
- *Collaborating with the site mentor as needed*
- *Being available to the student as a resource and consultant*
- *Notifying the doctoral capstone coordinator if problems arise and collaborate with the student, doctoral capstone coordinator, and site mentor on plan of correction*

Capstone Coordinator:

Capstone Coordinator Roles and Responsibilities:

- *Ensuring the DC experience and project is consistent with the IU OT Program Curricular design*
- *Ensuring a contract is signed between IU and each site*

- *Working collaboratively with the student to create individual learning objectives for the doctoral experience that are in alignment with the OT Program student outcomes*
- *Collaborating with the student to ensure completion of the Student Learning Contract is developed and includes; individual learning objectives for the DC experience, specific goals and objectives for the DC project, plan for mentoring, and is signed by all appropriate parties*
- *Educating faculty mentors and site mentors on roles and responsibilities*
- *Ensuring the length of the DC Experience is 14 weeks (560 hours) and that no more than 20% of the time is completed outside the mentored practice setting*
- *Being available as a resource and consultant to the student, site mentor, and faculty mentor during the doctoral capstone experience*
- *Reviewing resumes of the site mentors to ensure expertise in the students area of focus and verify appropriate licensure and/or certifications*
- *Working with student to match to sites and identify a site mentor*
- *Working with the OT Program Chair to assign appropriate faculty mentors*
- *Developing Course syllabi for T880 and T830 and creating on-line discussion prompts for T880*

Overall *Student Learning Objectives for the Doctoral Capstone* ***Experience***-designed by the OTD Student in collaboration and aligned with the IU OT Program Educational Outcomes and Curriculum Design (ACOTE D.1.2 and ACOTE D.1.4):

Curricular Thread: ***Socially Responsive Health Care***
Outcome: *Graduates will demonstrate entry-level competencies in providing client-centered, inclusive, equitable, and research informed care in professional practice.*

Student Learning Objective 1:

I will demonstrate entry-level competencies by providing information that is evidence-based and that helps to create an environment of safety and inclusivity for children that have experienced trauma.

Curricular Thread: ***Critical Inquiry & Reflective Practice***
Outcome: *Graduates will be prepared to apply principles of evidence based and evidence informed decision making in professional practice to improve and expand the delivery and quality of occupational therapy services.*

Student Learning Objective 2:

I will apply current literature and best practices surrounding trauma informed care and practices to my learning program in order to increase therapist awareness and implementation.

Curricular Thread: ***Leadership and Advocacy***
Outcome: *Graduates will demonstrate leadership and advocacy to promote health, well-being, and quality of life for people, populations, and communities.*

Student Learning Objective 3:

I will demonstrate leadership and advocacy to promote the health, well-being, and quality of life for children that have experienced trauma.

*Goals and Objectives for the Doctoral Capstone **Project***- designed by the OTD Student in collaboration with the Capstone Coordinator, Faculty Mentor and Site Mentor (ACOTE D.1.3). *Number of goals and objectives will vary based on the student project*:

Project Goal 1: Create an educational program for the therapists at Meridian Pediatric Health regarding trauma informed care and practices in order to increase their awareness and confidence in implementing trauma informed practices into their treatment.

Objective 1: Examine the current literature surrounding trauma informed care and best practices in order to find the most relevant data.

Objective 2: Summarize the data into a concise program in order to provide the therapists with the information that they need to understand trauma and its effects.

Objective 3: Collaborate with other health care professionals working in trauma informed care in order to create connections for consultation.

Objective 4: Find and list all currently available continuing education programs regarding trauma informed care in order to reinforce and continue growing therapist knowledge.

Project Goal 2: Make environmental modification suggestions in order to provide children with a safe and welcoming environment.

Objective 1: Analyze the current therapy rooms, waiting room, therapy gym, and hallways to assess for sensory input that may cause a child to become triggered.

Objective 2: Discuss a space for children to go to when they are dysregulated and need a safe, comforting environment.

Plan for Mentoring/Supervision of the Experience- between the OTD Student and Site Mentor (ACOTE D.1.4):

1. *The student will be mentored and supervised by the site mentor.*
2. *The student will only participate in activities as approved by the site mentor.*
3. *If the student is providing skilled occupational therapy services, the supervision guidelines for the provision of occupational therapy services by students for each particular state is required.*
4. *If the site mentor is not available to supervise the student for a particular timeframe (i.e. vacation), the site and mentor will identify a replacement supervisor for that particular time period.*
5. *The student may spend additional time at other locations within the site organization as assigned by the site mentor.*
6. *This is a 560-hour doctoral experience. At least 80% of those hours must be spent at the doctoral experience site. Any absences must be made up to get to 560 hours to ensure successful completion of the doctoral experience.*
7. *The student and site mentor will determine a plan for the supervision/mentoring meeting*

Additional:

Plan for Dissemination and Authorship:

The student is required to present the results of the capstone experience and project in order to demonstrate how knowledge was gained and synthesis of knowledge occurred. This presentation will be in May at the IU OTD Capstone Presentation Forum. If the student plans to disseminate beyond this forum the student is required to complete the *Document of Capstone Authorship* (DCA) with appropriate signatures and attach to this document. Note: Materials developed for the site during the capstone experience (ie handouts, program protocols, etc) by the student are the property of the site unless otherwise noted here.

By signing and dating below you are agreeing with this student learning plan (ACOTE D.1.4)

Student: Haley Conrady, OTS

Site Mentor: [signature] 9/30/2020

Faculty Mentor: Terry Petrenchik 09.24.2020

Capstone Coordinato [signature] 10/5/20

Appendix C

HOW CHILDHOOD TRAUMA EFFECTS THE BRAIN

USE IT OR LOSE IT

The brain is considered to be use-dependent, meaning that it has to be used in order to grow. For children that were neglected early in life, they may not have had the experiences and input that they need for their brain to fully develop. This can lead to developmental delays and problems in school.

LACK OF EMOTIONAL REGULATION

Children that have experienced trauma tend to lose their ability to control or understand their emotions. Children learn how to control their emotions through the example of their caregivers. Staying calm during stressful situations teaches them to do the same. Helping them to name their emotions is also helpful in learning to control them.

THEIR STRESS RESPONSE BECOMES OVERLY SENSITIVE

A child that has experienced trauma has had their brain's stress response be turned on too much, causing a change in their brain. This causes their stress response to be turned on too easily, and for too long. This can make their emotional response bigger than seems necessary. This is out of their control.

THEY STRUGGLE TO PAY ATTENTION

Children that have experienced trauma are constantly on high alert, searching for threats around them. Due to this, they have a hard time paying attention, may show high levels fidgeting behaviors, or seem like they're always "spacing out".

THEY MAY HAVE MEMORY DIFFICULTIES

Trauma experiences are often not stored in the brain as full memories, but instead as bits and pieces of sensory memories. Due to this, they may not be able to remember exactly what happened to them. They tend to also have difficulties with short term memory, due to changes in their brain.

HOW CAN YOU HELP?

Having your child engage in daily movement such as swinging, dancing, or walking helps the brain to develop. Creating a safe space for them can help them calm down and focus on the task at hand. If there are any known triggers that are upsetting to your child, actively work to remove them from home and school. Most importantly, be patient and calm. As they learn to stay calm from you, they will also learn that they are safe.

ASK ONE OF OUR THERAPISTS IF YOU NEED HELP CREATING A ROUTINE TO SUPPORT HEALING AND GROWTH OR WITH ANY PROBLEM BEHAVIORS. WE ARE HERE TO HELP!

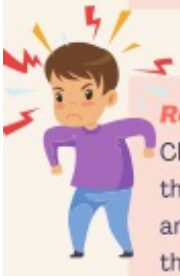
Created by Haley Conrady, OTS

Supporting Your Child After Trauma

Tips for Caregivers

Listen to their story and validate their feelings.

Don't avoid discussing what happened. This suggests to a child that it is not ok to talk about it. Validate their feelings. For example say "That does sound really scary." Or "I can see why you are angry".



Remain calm when your child is acting out.

Children that have experienced trauma may be triggered by something that reminds them of the event and make them act out. By staying calm, they will realize that they are safe and learn how to regulate their emotions by your example. Also, do not take their behaviors personally. Their behaviors are a response of their trauma and they are not in control of them. Help them to name their emotions. This will help calm them down and is the first step to learning how to control them.

Keep a consistent routine at home.

This provides your child with a sense of predictability and comfort. Add daily movement into your daily routine to help your child's brain continue to develop and learn how to control their emotions. Try going for a walk, swinging, dancing, yoga, etc. Allow your child to make a few choices throughout the day to give them a sense of control. This could be as simple as asking them which way they want to walk or providing them with two choices for dinner.

Help your child get good sleep.

Start by making sure your child feels safe in their room at night. Ask them what they need to feel safe. This may be a nightlight, leaving the door open, etc. Then help your child create nightly bedtime routine to tell their body it is time for sleep and calm them down. Try stretching before getting into bed and reading a book. Try not allow screen time an hour before bed.

Created by Haley Conrady, OTS.

Appendix D

Participant Information
What is your role at IU Health Ball Pediatric Rehabilitation?
How long have you worked in your field?
Did your graduate program have a course on trauma-informed care?
Prior to this training, have you attended any formal trainings on trauma-informed care?

Prior/after the training, mark how confident you feel with the following statements:

	Extremely confident 1	Confident 2	Neutral 3	Not confident 4	Not at all confident 5
01. Explain what constitutes trauma.					
02. Recognize what factors put a child at a higher risk of experiencing maltreatment.					
03. Recognize "symptoms" and their adaptive coping means of trauma.					

04. Explain the negative health consequences of experiencing childhood trauma.					
05. Understand triggers and how to help a child identify theirs.					
06. Explain protective factors that reduce trauma.					
07. Explain in a general manor how trauma impacts brain development.					
08. Select an assessment for trauma and its effects.					
09. Identify the beginnings of dysregulation and how to regulate.					
10. Explain to caregivers the effects of trauma and how they can support their child in their development.					
11. Design a trauma sensitive intervention that resists re-traumatization and supports development.					
12. Support caregivers in their own mental health.					
13. Explain vicarious trauma and ways to prevent it.					
14. Explain occupational therapy, physical therapy, or speech language pathologists role in working with children that have experienced trauma.					

After the training, please answer the questions below in your own words:

Post Training Questions
What is the most important information that you learned?
Was there other information that you would have liked to have learned?
What is one thing that you will change in your practice after the training?
Are you interested in continuing to learn more about trauma-informed care?
Do you think that all therapists should receive training on trauma-informed care?
What impact do you think this training had on your practice, the clinic, and all patients that receive care at IU Health Ball Pediatric Rehabilitation?

Are there any changes that you would recommend be made to this training?