5-16-2020

Using Child-Centered Play Therapy as an Intervention to Reassess ADHD Diagnoses and Trauma in Children: A Literature Review

Bethany Gibbons
bgibbons@lesley.edu

Using Child-Centered Play Therapy as an Intervention to Reassess ADHD Diagnoses and Trauma in Children: A Literature Review

Capstone Thesis

Lesley University

May 5, 2020

Bethany Gibbons

Expressive Arts Therapy

Professor Kellogg

Abstract

Although it is difficult to assess, attention deficit hyperactivity disorder (ADHD) is a prevalent diagnosis that exists among children. A major factor that contributes to the complexity of this disorder is the parallel symptoms presented in other diagnoses. Post-Traumatic Stress Disorder (PTSD) in children has been identified as being either comorbid with ADHD, or sharing similar symptoms, which can produce potential misdiagnosis and ultimately lead to ineffective or impertinent treatment. To better determine a child's diagnosis and plan of treatment, an approach can be implemented to assist in distinguishing between the two disorders. Child-centered play therapy (CCPT) may serve as a significant intervention to re-assess trauma versus misdiagnosis of ADHD. CCPT has shown to be highly effective in treating traumatized children, as well as minimizing their symptoms. Additionally, children diagnosed with ADHD, who were previously exposed to trauma, showed a reduction in symptoms after receiving CCPT for treatment. The purpose of this thesis is to review the relevant literature for ADHD and trauma-exposed/PTSD diagnosed in children and explore CCPT as an effective intervention to better re-assess a diagnosis. Although limited research includes CCPT as a diagnostic procedure, CCPT has shown to reduce behavioral symptoms that result from trauma and that are often confused as ADHD. More research would be needed to test and review outcomes.

Using Child-Centered Play Therapy as an Intervention to Reassess ADHD Diagnoses and Trauma in Children: A Literature Review

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) has grown to be a prevalent diagnosis among children, affecting 8-12% of children worldwide (Biederman & Faraone, 2005) and is one of the most frequent diagnoses of childhood (Ray, Schottelkorb, & Tsai, 2007). The process of developing and defining criteria for ADHD has evolved over the decades, dating back to the 1930's, and while such changes have been helpful in describing and assigning diagnosis, it has also complicated clinicians' understanding of the diagnosis (Weinsten, Staffelbach, & Biaggio, 2000). ADHD has shown to have overlapping symptoms with other psychiatric disorders within the DSM-V, creating confusion when differentiating diagnoses.

In particular, childhood trauma and PTSD are recognized for having overlapping symptoms with ADHD, despite the two not being listed as differential diagnoses for one another in DSM-V. Because of such coinciding symptoms, questions have been raised regarding whether children are being properly diagnosed. While there is possibility that ADHD and PTSD can be comorbid, it is essential to determine and differentiate proper diagnosis to ensure children are receiving appropriate intervention and treatment. A major consequence of misdiagnosing ADHD in children who may have PTSD or underlying trauma is that the trauma is left untreated, and without receiving proper attention or consideration, symptoms continue and can even become exacerbated (Weinstein et al., 2000).

Childhood trauma can severely damage and impact the brain, altering healthy human development and precipitating emotional and behavioral difficulties. In this respect, a traumatic event or experience could ultimately lead to a psychological disorder. Trauma occurring during

early childhood impacts neural developmental structure, connectivity, and function, leading to maladaptive emotional, behavioral, and cognitive responses (Ryan, Lane, & Powers, 2017). Prolonged or repetitive exposure to traumatic events can lead to widespread psychological and biological consequences (Szymanski, Sapanski, & Conway, 2011). Another consideration is that a traumatized child may experience new problems resulting from the trauma as they transition into a new developmental stage; for example, transitioning into adolescence can reawaken old conflicts regarding compromised autonomy (Terr, 1989).

When treating traumatized children, it is necessary to understand them from a developmental perspective. Because children have difficulty putting words to their thoughts and emotions, incorporating interactive methods like play therapy translates as a language that they understand and use to communicate (Hall, 2019). Through play, a child feels more in control of their world, whereas outside of play they are told what to do. Child-centered play therapy (CCPT) functions off of that very principle, in which the child leads therapeutic sessions and has full control of what they choose to do while the therapist follows. CCPT thrives off the belief in a child's ability to self-direct, and in cases of trauma, it allows the child to process their experience, as well as obtain a sense of control over the event (Hall, 2019).

Treating traumatized children with CCPT allows them to transition from confronting their pain to changing their perspective on their trauma to developing a sense of empowerment, security, and well-being (Ogawa, 2014). Ultimately, this leads to an improved level of functioning and a lessening of adverse emotional and behavioral symptoms. Considering the effectiveness of CCPT to reduce unaddressed trauma or PTSD symptoms in traumatized children, this could act as a potential intervention to re-assess misdiagnosis of ADHD in children, or children who have been diagnosed comorbidly with PTSD.

Before examining the possibility of CCPT as an effective intervention for re-assessing childhood trauma and PTSD vs. ADHD, this thesis will begin by providing thorough information and background of each diagnosis, including overlapping symptoms and the controversy and challenges involved with assessing and diagnosing childhood trauma/PTSD and ADHD. Further, examining the effects of childhood trauma will contain how children respond to psychological stress and the resulting neurobiological effects and consequences. With enough information to present an understanding of potential ADHD misdiagnosis in children with underlying trauma, additional information will be provided on CCPT and its effectiveness in treating trauma/PTSD, as well as differentiating ADHD. Collected research will highlight CCPT's therapeutic approach as an interventive resource to re-assess and differentiate between trauma/PTSD and ADHD.

Literature Review

The core of ADHD's characteristics is the result of neurological deficits connected to executive functions, causing impairments in learning, emotion regulation, and behavior management. Compared to ADHD, trauma and PTSD symptoms result from one or multiple traumatic events that alter brain chemistry and lead to changes in how a child responds cognitively, emotionally, and physically. Even though ADHD is a behavior disorder and PTSD/childhood trauma is reactionary response to a traumatic event(s), both disorders present with a number of overlapping symptoms. The first few sections will explore ADHD, childhood trauma, and how their symptoms overlap and can potentially lead to mistaken diagnoses and treatments.

ADHD

Dating back to 1937, ADHD emerged as the first psychiatric disorder to be diagnosed and treated in children and has evolved into one of the most common childhood diagnoses in the 21st century (Biederman & Faraone, 2005; Robinson, Simpson, & Hott, 2017). ADHD diagnosis has found to be in approximately 5% of children and occurs in most cultures (Swank & Smith-Adcock, 2018). Two of the leading reasons for children referrals to clinicians and psychologists are due to attention and behavioral problems (Ray et al., 2007). Assessing and diagnosing ADHD has proven to be difficult, partially attributing to the significant changes in diagnostic criteria and terminology that have taken place over the past 60 years (Weinstein et al., 2000). Such changes have been influenced by empirical studies of epidemiology, cause, pathophysiology, and treatment (Biederman & Faraone, 2005).

Generally, ADHD diagnosis involves difficulties with fundamental academic and social tasks that promote learning, which are presented as not staying attentive, not following directions, and not working appropriately with others (Swank & Smith-Adcock, 2018). The most recent edition of DSM-V categorizes ADHD diagnostic criteria into 3 subtypes: primarily inattentive, primarily hyperactive/impulsive, and combined presentation (APA, 2013). These classifications include children displaying developmentally inappropriate levels of inattention, hyperactivity, and impulsivity that begin in childhood and cause impairment in school performance, intellectual functioning, and social skills (Biederman & Faraone, 2005). To meet diagnostic criteria for ADHD according to DSM-V, there must be a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development present in two or more settings, and must meet at least six symptoms for at least 6 months prior to 12 years of age (APA, 2013).

Weinstein et al. (2000) and Biederman and Faraone (2005) identified children with ADHD as having disruptive and inattentive behavioral problems that include school dysfunction and academic underachievement, developmental reading and mathematical disorders, aggressiveness towards peers, family conflict, uncooperative and antisocial behavior, and injuries. Children with ADHD show an increased risk for being held back in class and suspended from school (Pottinger, 2014). Contributing to the complexity of ADHD is that such behaviors can affect other areas of functioning, can appear as overlapping symptoms of other disorders, or exist comorbid to other mood disorders, anxiety disorders, learning disabilities and PTSD (Weinstein et al., 2000). Clinical errors will arise if clinicians routinely disregard symptoms of comorbid disorders as associated features of ADHD, such that symptoms of the untreated disorder will get worse and cause further problems (Biederman & Faraone, 2005).

Biederman and Faraone (2005) explained that executive disfunctions commonly seen in ADHD are controlled by frontal-subcortical circuits, which consists of inhibition, working memory, set-shifting, interference control, planning, and sustained attention. Dysregulation of frontal-subcortical circuits creates neuropsychological deficits, which in structural and functional neuroimaging studies appear as small volume reductions in these regions (Biederman & Faraone, 2005). Other studies have also shown abnormalities in structures widespread or outside the frontal-subcortical circuits, supplementing and supporting Biederman and Faraone's (2005) research. Although brain-imaging studies have documented both structural and functional pathological changes in front-subcortical-cerebellar circuits, imaging methods are not valid enough to consider a method for diagnosing (Biederman & Faraone, 2005).

Childhood Trauma and PTSD

For the purpose of this paper, childhood trauma will be considered on a broader spectrum rather than relying solely on PTSD diagnosis. Children exposed to trauma who do not meet DSM-V criteria for PTSD diagnosis should not be overruled or excluded, as exposure to trauma can still have harmful and damaging effects. According to Szymanski et al. (2011), children may respond to trauma with a wider range of symptoms than those captured by PTSD. Ogawa (2004) noted that DSM-V criteria is largely dependent on clients' verbal descriptions and accounts of their experiences, which is not sensitive enough to diagnose traumatized infants and preverbal children. Therefore, PTSD doesn't account for all children who have experienced trauma or show symptoms of trauma as a result. Consequently, if children do not meet PTSD criteria, they may not receive treatment for their underlying trauma, which ultimately dismisses the potential prolonging negative impact trauma will have on their development and well-being.

Trauma is described as horrible external events that are experienced intimately and forcefully through either a single incident occurring in one sudden moment or continuing traumatic experiences that occur over a period of time (Hall, 2019; Myers, Bratton, Hagen, & Findling, 2011). Instances of childhood trauma are known to include: sexual, physical and emotional abuse, devastating emotional loss, life-threatening illness, life-threatening accidents, war, disaster, neglect, domestic violence, and community violence (Ford, Racusin, Ellis, Daviss, Reiser, Fleischer, & Thomas, 2000; Gregorowski & Seedat, 2013). Additionally, Gregorowski and Seedat (2013) consider disruptive early attachment relationships in infancy and childhood as traumatic due to the probability of lifelong developmental consequences; whether abuse, loss, betrayal, or dysregulation in the caregiver, children are unable to develop the capacity to self-regulate or to rely on safe, consistent caregiving relationships for support.

The exposure of trauma during childhood causes internal changes that severely disrupt healthy functioning and impact brain development, putting children at extreme risk for behavioral disorders and developmental delays in social, emotional, cognitive, and physical domains (Ryan et al., 2017). Symptoms can have a lasting effect for years, and some symptoms may actually extend or expand with time (Terr, 1989). For some child trauma survivors, symptoms persist more than a decade later in adolescence or young adulthood (Ford et al., 2000). The age of the child during trauma exposure, the severity of the trauma, and the child's disposition mediate the impact these experiences will have on development and symptom presentation (Ryan et al., 2017; Myers et. Al, 2011).

The overwhelming and debilitating effect that trauma has on children is that it interferes with multiple domains including cognitive development, emotional functioning, behavioral control, physical health, social skill development, attachment, identity formation, and the ability to trust the self and others (Myers et al., 2011; Pottinger, 2014). Issues with these domains can manifest into distractibility, disorganized affect, and disruptive behaviors (Szymanski et al., 2011). Recurrent trauma may develop into more severe symptoms, which can lead to various diagnoses such as personality disorders, conduct disorders, attention-deficit disorders, depression, dissociative disorders, and anxiety disorders (Hall, 2019). Multiple experiences of trauma have such an impact on a child's sense of control in that they are abruptly deprived of the sense of security that is crucial to healthy emotional growth, which limits cognition, verbalization, and abstract thinking (Ogawa, 2004). Consequently, this increases vulnerability, hopelessness, anxiety, instinctual arousal, and feelings of danger (Ogawa, 2004; Myers et al., 2011). Preschool children who experience trauma exposure struggle with age-appropriate motor and social skills or regression to more childish behaviors, whereas school-aged children and

adolescents have heightened levels of psychopathology, including severe fears and anxiety when faced with a wide range of situations (Weinstein et al., 2000).

Lee, Park, Jin, Lee, and Hahn (2017) discovered that children diagnosed with PTSD showed an impairment in sustained attention and were easily distracted compared to controls with no reports of trauma; in particular, a history of physical trauma worsened the effect on one's attention. It was further concluded that childhood trauma was significantly correlated with attention and concentration in a negative way, and these findings support that childhood trauma are likely to affect neurocognitive problems into adulthood (Lee et al., 2017). Children exposed to chronic stress or trauma can result in a brain trained to exist in a state of hyperarousal, in which they cannot concentrate, and they become easily frustrated, more impulsive, and moody (Stewart, Field, & Echterling, 2016). This is substantially disorganizing for children as it results in problems with motor restlessness, difficulty concentrating, explosive or aggressive outbursts, and emotional constriction (Szymanski et al., 2011).

Identifying and communicating feelings for children is difficult because they lack the ability to process their internal experiences and the world around them, but when trauma exposure is involved, they may demonstrate excessive clinginess, anxiety, aggression, and dissociation (Gregorowski & Seedat, 2013). Common symptoms exhibited by traumatized children include flashbacks, repetitive behavior, trauma-specific fear, and futurelessness (Ogawa, 2014). Ways in which children process traumas may be displayed by persistent avoidance, making up reasons why the trauma took place and how they could have prevented it, developing sense of guilt, self-blame, omen-type thoughts, loss of sense of security, and increased separation anxiety from parent (Ogawa, 2004). Children are unaware that their behavior is related to

original thoughts and feelings about the trauma, but intrusive and repetitive thoughts are presented in drawings, stories, and play (Ogawa, 2004).

To express their traumatic experiences through play is not uncommon, as this is largely a way for them to cope (Gregorowski & Seedat, 2013). More often, repetition of traumatic events is seen and played out in dreams, fantasy, aggressive play, self-destructive behavior, and delinquency; usually aggressive and destructive types of responses are connected to behavioral problems (Weinstein et al., 2000). Not being able to regulate or manage emotions can result in impulsivity, and experiencing intense emotions such as rage and shame can lead to withdrawal or behavioral enactments, either avoiding emotional states or attempting to protect themselves from reoccurring feelings (Gregorowski & Seedat, 2013).

When behaviors display in the form of social withdrawal, over compliance, impulsivity, aggression, and/or defiance, additional strain may be inflicted on attachment relationships, and further may prevent potentially supportive relationships from transpiring in the future (Gregorowski & Seedat, 2013). A negative sense of self may contribute to hypervigilance and faulty information processing (Gregorowski & Seedat, 2013). Responses to both neutral and traumatic stimuli often are confused and disorganized, leading to further self-perceptions of helplessness (Gregorowski & Seedat, 2013). It is not uncommon for children to children develop the ability to disassociate themselves, mentally and emotionally in order to avoid feeling the emotions associated with the trauma, including denial and numbing (Hall, 2019). If children present as withdrawn, it is an unconscious coping mechanism to which they can either become easily enraged or abnormally passive, possibly fluctuating between the two (Hall, 2019). Ongoing avoidance and hyper-vigilance that results from trauma can become automatic rather than conscious, which may lead to dissociation and fragmented consciousness (Gregorowski &

Seedat, 2013). Dissociation can have maladaptive consequences including a disconnect between thoughts and feelings, an inability to be consciously aware of bodily sensations, and behavioral reactions that are outside of awareness or control (Gregorowski & Seedat, 2013).

Although a number of children may be resilient to trauma exposure with initial symptoms of distress reducing over time, some children develop sustained psychological difficulties including anxiety, depression, behavioral symptoms, and clinical or subclinical levels of posttraumatic stress (Schilpzand, Sciberras, Alisic, Efron, Hazell, Jongeling, Anderson, & Nicholson, 2017). Behavior and emotional manifestations arise from major psychological distress and can surface in the form of depression, guilt, anxiety, frequent nightmares, anger, hostility, identity confusion, impaired trust, low self-esteem, symptoms of hypervigilance, impaired impulse control, and social inappropriate behavior, dreams, and fantasy (Weinstein et al., 2000). Furthermore, emotional symptoms and disturbances resulting from trauma are also connected to the development of phobias and panic attacks, heightened irritability and alertness, and problems with peers and schoolwork; if hostile behavior appears, it can be displayed as active defiance, disorderly behavior in family, and quarreling or fighting with classmates (Weinstein et al., 2000).

Stress elicited by trauma can influence physiological dysregulation, causing or exacerbating medical conditions and illness, which has been connected to increased sympathetic adrenergic activity, higher resting heart rates, digestive issues, sleeping irregularities, sensory motor issues, hypervigilance, and physical hyperactivity (Gregorowski & Seedat, 2013; Ryan et al., 2017). Often, traumatized children are diagnosed with comorbid psychiatric and medical disorders in that the common etiological factor of trauma exposure can go unrecognized (Gregorowski & Seedat, 2013). Knowing the etiological experience of trauma is essential in

assessment to inform both diagnosis and treatment, otherwise, treatment plans may be inefficient, or may even run the risk of re-traumatizing (Gregorowski & Seedat, 2013). Without proper knowledge, assessment, or consideration of trauma history, it may be possible that symptoms are mistaken for ADHD.

Overlapping Symptoms of Childhood Trauma/PTSD and ADHD

There is a growing body of research developed to examine and better understand the relationship between exposure to childhood trauma/PTSD and ADHD (Szymanski et al., 2011). Researchers have investigated the comorbidity, as well as how the symptoms resemble, overlap, and differentiate, and whether or not one diagnosis is mistaken for another. The overlapping symptoms between both diagnoses displays parallel psychobiological and social learning impairments, as well as disruptive behaviors in information processing and emotion regulation (Ford et al., 2000). Children exposed to trauma often present with symptoms resembling core characteristics of ADHD, and additionally, ADHD symptoms also overlap with PTSD, characterized by difficulty concentrating, restlessness or irritability, and impulsivity (Pottinger, 2014; Weinstein et al., 2000). Because of the overlap in symptoms, distinguishing between diagnosing PTSD and ADHD makes for a complicated process.

Research conducted by Lee et al. (2017) produced findings that proposed childhood trauma may affect the onset of ADHD, while Ford et al. (2000) suggested that children with preexisting ADHD may be at higher risk for accidental trauma due to difficulties with self-regulation and impulsive behaviors. Ford et al. (2000) acknowledged that trauma and PTSD symptoms can contribute to, or exacerbate ADHD's attention, impulse regulation, and physiological hyperreactivity symptoms, as well as that trauma can create symptoms parallel to ADHD. According to a study conducted by Biederman, Petty, Spencer, Woodworth, Bhide,

Zhu, and Faraone (2012), findings showed that ADHD probands had a significantly higher prevalence of PTSD compared to non-ADHD probands. Correspondingly, Schilpzand et al. (2017) studied the association between childhood trauma exposure and outcomes in children with ADHD, and findings showed that ADHD children exposed to trauma had greater ADHD severity compared to ADHD children non-exposed to trauma. The research of Schilpzand et al. (2017) also determined that trauma exposure in childhood is a risk factor for developing mood and anxiety disorders, and prolonged exposure to trauma has been associated with poorer academic performance and deficits in executive functioning. Respectively, ADHD is a disorder in which symptoms result from problems, weaknesses, or deficits with executive functioning. It seems feasible that a traumatized child might manifest what appears to be ADHD symptoms of inattention, hyperactivity/impulsivity, or overt externalizing behaviors, when possibly PTSD symptoms are misinterpreted as ADHD symptoms (Weinstein et al., 2000). Through brain diffuser tensor imaging, researchers were better able to examine the neurobiological consequences of childhood trauma exposure and ADHD; it was determined that the etiology of ADHD involves multiple biologic and psychosocial factors to which trauma and PTSD symptoms may contribute (Park, Lee, Kim, Kwon, Cho, Han, Cheong, & Kim, 2016).

According to the research of Szymanski et al. (2011), traumatized children's feelings of emotional numbing, avoidance, and disengagement from others may facilitate ADHD's functional impairments at home, at school, and in social relationships such as intrafamilial conflict, school suspension, and rejection by peers. Trauma exposure impacts a child's ability to regulate his/her affect, in that they are more prone to be easily overwhelmed, overreact to minor stresses, have difficulties with self-soothing, react excessively in response to neutral stimuli, and have trouble modulating their anger (Szymanski et al., 2011). Traumatized children have a

compromised ability to regulate their emotions, which creates a particular vulnerability for exhibiting behaviors typical of an ADHD diagnosis (Szymanski et al., 2011). Avoidance symptoms of trauma and PTSD are understood to be a defense mechanism in response to the cognitively and emotionally overwhelming experience of a traumatic event (Szymanski et al., 2011), which involves intentional efforts to not think about the trauma, as well as general experiences of inattention to stimuli, high distractibility, and forgetfulness (APA, 2013). These symptoms mirror symptoms of inattention, distractibility, and avoidance of activities within the inattentive cluster of ADHD (Ford et al., 2000).

In comparing PTSD's Hyperarousal cluster to ADHD Hyperactivity cluster, there are also mirroring symptoms. Within PTSD Hyperarousal cluster, the innate protective mechanism is to defend the self from future traumas (Szymanski et al., 2011) which is displayed in the form of hypervigilance, irritability, and an exaggerated startle response (APA, 2013). Compare that to Hyperactivity cluster of ADHD, and it is displayed in the form of fidgeting, excessive moving around, and restlessness (Szymanski et al., 2011). Additionally, PTSD's symptoms of intrusive recollection and the re-experiencing of traumatic memories can present as ADHD's symptoms of difficulty in organization and incapacity to listen, as well as disorganized, agitated behavior due to painful memories that overwhelm a child's ability to cope (Szymanski et al., 2011). Anxious feelings that arise due to trauma/PTSD can mirror the Impulsivity cluster of ADHD (Szymanski et al., 2011).

Neurobiology of Childhood Trauma

Understanding the neurobiology behind trauma helps in attaining essential information that's needed during assessment, as well as the direction of treatment (Ryan et al., 2017). Brain growth is most active during the early years of life, and emotional and cognitive disruptions

during those years leads to potential impairment in brain development (American Academy of Pediatrics, 2000). Within the first 2 years of life, children develop important cognitive capacities such as symbolism, language, and autobiographical self-awareness (Gregorowski & Seedat, 2013). During the third and fourth year, they develop schemas and a sense of self and others, differentiating between emotions/intentions, impulses/actions, and anticipating future occurrences based on past experiences (Gregorowski & Seedat, 2013). In the third and fourth years specifically, the anatomic brain structures that govern personality traits, learning processes, and coping with stress and emotions are established, strengthened, and made permanent; however, if these structures are influenced by negative environmental conditions, the nerve connections and neurotransmitter networks that are forming, atrophy (American Academy of Pediatrics, 2000).

Trauma experienced during these stages affects how the brain interprets information and stimuli, possibly confusing all stimuli and experiences to be potentially traumatic (Gregorowski & Seedat, 2013). Thus, curiosity is restricted and learning is constrained, resulting in an over-developed memory and response for traumatic events, which then leads to deficits in attention, hypothesis testing, problem solving, linguistic organization and memory, and short-term memory (Gregorowski & Seedat, 2013). The pre-frontal cortex, which overrules executive functions, is in charge of directing behavior and helping modulate emotions, but it is not fully developed in children (Stewart et al., 2016). Essentially, the pre-frontal cortex is one of the last brain regions to fully develop and isn't achieved until a person's mid-20s, which means the ability for planned behavior or organization is still "under construction" earlier in life (Stewart et al., 2016).

Exposure to traumatic events elicits and activates a stress response; when the stress response is acute or chronic and occurs during a sensitive period of development, the brain then

becomes organized in an atypical manner, leading to maladaptive emotional, behavioral, and cognitive responses (Ryan et al., 2017). Chronic stress causes structural changes in higher regions of the brain (amygdala, hippocampus, orbital frontal cortex, and medial prefrontal cortex) attributing to issues with emotional control, problem solving, and learning; therefore, influencing anxiety, memory, mood control, executive functions, and social emotional learning (Ryan et al., 2017).

When children experience trauma, their stress response varies in that cortisol levels either become hyper- or hypoactive due to a dysregulated feedback loop (Boparai, Au, Koita, Oh, Briner, Harris, & Bucci, 2018). The body's physiological response to stress is based on involuntary actions of the brain, and exposure to early or chronic stress impacts the brains structure and function at the cellular level (American Academy of Pediatrics, 2000; Ryan et al., 2017). Research has demonstrated chemical and electrical evidence for this type of brain response pattern which causes a child to react in a hypervigilant, fearful manner (American Academy of Pediatrics, 2000). Additionally, altered stress responses are linked with inflammatory responses, affecting long-term physical and emotional health, as well as the ability to respond typically to lower levels of stress (Ryan et al., 2017).

Depending on the child's developmental age, the "fight" response to stress can vary in the form of temper tantrums, aggressive behaviors, or inattention and withdrawal (American Academy of Pediatrics, 2000). The "flight" response may appear to become psychologically disengaged, leading to detachment, apathy, inattention, excessive daydreaming, or a freeze in motor activity (American Academy of Pediatrics, 2000). The same areas of the brain that are involved in the acute stress response also mediate motor behavior and such functions as state regulation and anxiety control (American Academy of Pediatrics, 2000). Repeated exposure of

traumatic events can lead to dysregulation in these various functions resulting in behaviors such as motor hyperactivity, anxiety, mood swings, impulsiveness, and sleep problems (American Academy of Pediatrics, 2000). As a result of severe stress, changes in brain functioning materialize and learned experiences of threat and/or deprivation can affect neural development, which happen to produce alterations in brain structures consistent with ADHD (Thomson & Lewis, 2015). Some theories propose that there is a direct neurobiological link between trauma and ADHD, possibly involving dysfunctions of the stress response and/or neuron development (Thomson & Lewis, 2015).

Distinct types of stressors, including traumatic ones, have particular effects on learning (Thomson & Lewis, 2015). Childhood trauma stemming from a neglectful environment, where support and communication are limited, makes it more difficult for a child to develop the brain connections that facilitate language and vocabulary development, and therefore may impair communication skills (American Academy of Pediatrics, 2000). Another way in which childhood trauma can affect linguistic growth is that it alters the social interactional process by which children acquire and use language to talk about their own and others' emotions (Szymanski et al., 2011). Psychological trauma that occurs before 2-3 years of age tends to leave behavioral, rather than verbal memories (Terr, 1989). Neurological advances have found that traumatic memories in children are stored and processed in a sensory manner (somatically, visually, auditorily), which disrupts cognitive abilities to process the traumatic event (Hall, 2019). Children affected by trauma need additional professional support in processing sensorimotor and affective memories (Hall, 2019). With altered brain functioning at a limited cognitive developmental level, traumatic memories are unavailable to verbal recall, and instead are displayed through habitual and erratic body movements (Sories, Maeir, Beer, & Thomas,

2015). Repeated physiological expressions and affective states can activate somatic disorders and traumatic traits (Sories et al., 2015).

Lee et al. (2017) conducted a study to determine the relationship between high frequency electroencephalogram (EEG) bands, inattention, ADHD, and childhood trauma. It was discovered that individuals exposed to childhood trauma portrayed an upward shift of high frequency bands. These findings make it possible that the increased beta power of individuals with childhood trauma may reflect attentional deficits in their brain, while increased beta power of individuals without childhood trauma usually reflect healthy cognitive abilities. Such results suggest that enhanced beta power may reflect alternative brain functioning in reducing attention, which is rarely observed in healthy controls. Lee et al. (2017) also concluded that childhood adversities could cause subjective inattention and ADHD symptoms.

Assessment Challenges

Research findings pertaining to trauma's role in either the development or exacerbation of ADHD are somewhat conflicted, and more review and attention are needed to better identify trauma and differentiate diagnosis of PTSD and ADHD (Szymanski et al., 2011; Weinstein et al., 2000). Given the possibility for diagnostic confusion, distinguishing between these disorders is vital for accurate diagnostic decision making (Weinstein et al., 2000). Accounting that ADHD prevalence is quite high in psychiatric populations, it is probable that many of the children may have been exposed to trauma with undetected symptoms of trauma or PTSD (Szymanski et al., 2011). Spitzer, Schrager, Imagawa, and Vanderbuilt (2017) discovered there was a lack of trauma screenings performed during assessments, and Weinstein et al. (2000) noted that ADHD assessments may not routinely assess for trauma if children appear to present with ADHD symptoms, which could predispose a misdiagnosis of ADHD. Research showed that one in four

children aged 6-8 years with ADHD had been exposed to a traumatic event, which highlights the need for clinicians to be evaluating potential trauma exposure in children presenting with ADHD (Schilpzand et al., 2017).

An ADHD assessment that does not obtain information about trauma history prevents clinicians from having essential information that is needed to make accurate differential diagnosis (Weinstein et al., 2000). The high rate of comorbidity and symptom overlap between ADHD and trauma/PTSD alongside the high risk for inappropriate treatment interventions and mismedication necessitates critical attention for the inclusion of trauma history in ADHD assessment (Weinstein et al., 2000). Clinicians often approach questioning in a way that is not specific to underlying the source of behavior or if it could be more applied to a trauma response (Weinstein et al., 2000). This is unfortunate for children whose behavior issues are trauma induced and who require specific interventions to reduce the psychological impact (Weinstein et al., 2000).

Assessment is not always advantageous for properly screening for trauma prior to diagnosis. A trauma history can be difficult to obtain and may only emerge over time as trust is built between the child, parents, and therapist (Schilpzand et al., 2017). Schilpzand et al. (2017) noted that their study was based on parent-reports of their child's trauma exposure, which leaves the possibility that some parents were unaware of or under-reported the child's trauma history. This consideration further prompted the notion that parents may be unreliable reports due to the inability to accurately assess the child's internalizing symptoms, the status of the parents' mental health, and the parents' responses to traumatic events which can influence their assessment of their child's symptoms. Managing circumstances of this nature could include interactive

interventions such as CCPT, which allows children to speak independently of their experience through play and metaphor, as opposed to relying on verbal communication or parental report.

Critics of ADHD have questioned the subjectivity and credibility of the diagnostic process along with assessment (Biederman & Faraone, 2005). Generally, ADHD assessment focuses on behavioral problems, whereas PTSD assessment focuses on identifying a traumatic event that triggered symptoms, thus, misdiagnosis may occur as a result of inadequate history taking (Weinstein et al., 2000). In the case of misdiagnosis, treatment interventions may be overlooking or inadvertently avoiding the underlying issue and concern. Treatment interventions for ADHD predominantly consist of behavior management, social skills training, and stimulant or other medication, whereas treatment interventions for trauma and PTSD consist of emotional distress management and alleviation through play, psychodynamic, and cognitive behavioral therapy modalities (Weinstein et al., 2000).

Play Therapy

Play therapy has become a recognizable method for treating children with a range of presenting issues based on its interventional characteristics. It is developmentally appropriate and underlines how essential the act of play is to a child's social, cognitive, emotional, and physical development (Stewart et al., 2016). Unlike adults, children have not developed a cognitive ability to understand, process, and communicate tragic events and information (Myers et al., 2011). The lack of cognition attributes to them being less verbal, less insightful, and less able to identify and express their emotions (Hall, 2019). However, playing is a natural way for children to communicate (Hall, 2019); it is their language and channel for expression. The messages children communicate through their play is fundamental; what free association is to

adults, free play is to children, and behind every playful action there is symbolic meaning (Sories et al., 2015).

Incorporating play into therapy provides a unique framework for children to explore life circumstances on a level that is familiar and relatable (Stewart et al., 2016). Children typically struggle to bridge the gap between concrete experience and abstract thought, but through play, children can better process abstract experiences through concrete means (Hall, 2019). This is demonstrated when children use inanimate objects rather than words to project their feelings, beliefs, and perceptions about themselves and the world (Hall, 2019). Play is a natural and healthy tendency for children to cope with external difficulties and internal feelings, and it provides an opportunity to work through a problem without labeling it as their own, such as, it belongs to the "princess" or the "dinosaur," not to them (Terr, 1989).

In response to trauma, children tend to reenact significant parts of their experiences through play (Ogawa, 2004). When trauma occurs during preverbal and nonverbal developmental stages, it is stored at a subconscious level, impacting emotions and behaviors that may be evident in play (Hall, 2019). Play is a cathartic way for children to express their whole experience of the trauma, work through emotions and distance the self as needed, while also empowering them to gain a sense of security and a sense of control to change their story (Hall, 2019; Ogawa, 2004). Additionally, for preverbal and nonverbal traumas, play therapy enables those components to be visited, manipulated, controlled, and integrated into a tolerable and manageable experience (Hall, 2019).

Neuroscience behind play therapy. Play is not only the language of children, play is a primary task of childhood in which children explore and experiment (Ryan et al., 2017). Playing is a healthy way for children to develop physically, emotionally, and mentally. Child-directed and adult-supportive play therapy interventions offer children opportunities to absorb cognitive material and build growing neural pathways while creating more adaptive attachments and successful social interactions (Ryan et al., 2017). Repetition of play experiences that support relationally safe attachments and practice healthy self-regulation promote new neural connections, reducing and overriding old dysfunctional pathways and reducing dysregulated behaviors (Ryan et al., 2017).

Using play therapy when treating children elicits more of an engaged response and positive outcome than traditional talk therapy alone (Hall, 2019). To understand why play therapy is more appropriate than talk therapy during developmental periods, Stewart et al. (2016) researched brain functions and development, discovering that child-centered principles evoke a healing capability (Stewart et al., 2016). Further research in neuroscience has shown that play therapy creates new neural pathways, enhancing neuroplasticity (Stewart et al., 2016).

Additional research indicates that oxytocin plays a key role in social behavior and social understanding and that oxytocin secretion is typically correlated with increased trust, reduced fear, and improved emotional recognition (Stewart et al., 2016). When a therapist tracks a child's nonverbal behavior, verbal behavior and feeling state, they demonstrate resonance which increases oxytocin and supports social bonding (Stewart et al., 2016). The amygdala lessens fearful effects so that children will be able to address previously threatening aspects of their trauma; former automatic defensive responses become more relaxed so that dysfunctional somatic characteristics can be unlearned and new patterns of engagement, responding and

problem-solving can be tried (Stewart et al., 2016). Interactive play shapes and reshapes brain circuits which lay the foundation for later developmental outcomes such as academic performance, mental health, and interpersonal skills (Stewart et al., 2016). Beneficial effects of play have been documented in math, geometric knowledge, general academic achievement, emotional competence and social competence (Schultz, 2016).

Child-centered play therapy. Child-centered play therapy was based on Carl Rogers' person-centered approach, regarding the worth and significance of children as individuals so that counselors can better understand them and how they relate to the world, their experiences, and their development (Swank & Smith-Adcock, 2018; Hall, 2019). CCPT allows children the freedom to be fully who they are, no matter what thoughts and feelings they bear, therefore promoting independence and authenticity of self (Ogawa, 2004). Play within a child-centered approach is an intrinsically motivated activity that is inherently complete, in which children initiate play for their own purposes and for their own sake (Schultz, 2016).

The environment is intended to be safe and nurturing to promote growth, while simultaneously setting limits when needed to maintain that safety (Swank & Smith-Adcock, 2018). The therapist attends to the whole child, including cognitions, behaviors, and emotions, through an accepting, genuine, and empathetic relationship (Hall, 2019). Interactions between counselor and child are based off of a set of skills that consist of tracking (reflecting play behavior), reflecting content-meaning, reflecting feeling, returning responsibility (assisting decision-making), and encouraging (esteem-building) (Hall, 2019). These types of interactions offer a supportive presence to let children feel recognized and understood, while also validating their internal state when they're feeling stressed (Stewart et al., 2016). Because children's body language, tone of voice, and facial expressions are often outside of their awareness, tracking

behavior and reflecting feelings makes both actions and affect evident, allowing the child to have introspective pauses to explore their inner experience (Stewart et al., 2016).

In the context of a caring relationship, play provides safe opportunities for the child to practice creative exploration, reenactment, and rehearsal for dealing with challenging emotions, people, and events (Stewart et al., 2016). Children begin to establish security in a safe environment while the therapist holds space for the child to access unconscious processes, encouraging them to approach rather than avoid difficult emotional states, revisit hurtful experiences, and develop more adaptive coping responses (Stewart et al., 2016). Additionally, play can reduce stress and allow the child to be in control, which supports the child's engagement in increasingly complex activities (Stewart et al., 2016). Child-centered approaches may help with regulating behavioral impulses, increasing attention skills, and improving self-confidence, all of which can be tied to better academic and social outcomes for students (Swank & Smith-Adcock, 2018).

When playing-out traumas, children are able to regulate their distance from the traumatic event because they control and decide how and when to confront their trauma, if they choose to do so (Hall, 2019). Terr (1989) noted a case study in which Anna Freud and Dorothy Burlingham allowed a traumatized boy to play out his trauma during multiple sessions until he no longer felt the urge to do so; rather than interrupt his process or interpreting his play to him, they responded with acceptance and support. Symbolic play allows children to experience mastery over traumatic events and work toward a more integrated self by naturally desensitizing the traumatic experience (Hall, 2019). Having the opportunity to independently make choices without being told what to do by an adult reinforces self-regulation of emotion and behavior.

Effectiveness of child-centered play therapy in practice. Several studies have shown positive outcomes in children who present with emotional and behavioral issues. Sories et al. (2015) noted a case study of a child with reported extreme nightmares and separation who showed a decrease in traumatic symptoms after multiple sessions of child-centered play therapy. Similarly, Hall's (2019) research revealed that more than half the children receiving CCPT services demonstrated better behavioral and emotional outcomes compared to those who did not participate in play therapy, and additionally, CCPT produced higher treatment outcomes than other modalities of play therapy. Sories et al. (2015) noted that not only did children engaged in CCPT show a noticeable reduction in negative behaviors, but the improvements achieved in therapy even showed to last and maintain post treatment.

To determine if CCPT is effective in children diagnosed with ADHD, a few studies have been executed. Ray et al. (2007) investigated if using CCPT with ADHD children would reveal a reduction in problem behaviors, and findings showed that children receiving play therapy for treatment showed a significant decrease in emotional issues compared to children to strictly participated in reading mentoring. Another study by Swank and Smith-Adcock (2018) found that ADHD children receiving CCPT exhibited a decrease in behaviors, and compared to the non-CCPT intervention group, there was a significant decline in areas of emotional distress, withdrawal, and anxiety. These findings support previous research on the effectiveness of CCPT in reducing symptoms of ADHD (Swank & Smith-Adcock, 2018). A study administered by Robinson et al. (2017) implemented CCPT as treatment for children with ADHD which produced positive outcomes in reducing problematic behaviors; the improvements of participants were additionally observed and noted by teachers during class. Collectively, teachers favored CCPT's approach and agreed that it had multiple purposes including being suitable for

behavioral problems, not having any negative side effects, and showing use for a variety of presenting problems (Robinson et al., 2017).

Research continues to grow in discovering how effective CCPT is in treating emotional and behavioral issues presented in children, including those exposed to childhood-trauma and those diagnosed with ADHD. Although the studies in this literature review support CCPT as effective in treating children with and without ADHD, there was no specification whether ADHD probands had underlying or previous exposure to childhood trauma. This continually raises the question as to what the etiology or source of the behavioral symptoms were and whether trauma was ever present.

Discussion: Play Therapy as an Assessment Tool

Because there is no standardized procedure that exists for assessing ADHD, clinicians generally use a clinical interview, behavior checklist, or formal diagnostic procedures; this poses as problematic if clinicians miss symptoms or significant information, which can increase the risk for misdiagnosis (Weinstein et al., 2000). Sometimes diagnoses are given based on behavior alone without considering if there's any underlying trauma or if the trauma was preverbal (Ferro, personal communication, April 2, 2020). To better avoid misdiagnosis, Terr (1989) noted that early child analysts used play largely for diagnosis, not necessarily for treatment. Although modern day clinical interviews and assessments rarely incorporate play, Ogawa's (2004) research revealed the limitations of applying adult assessment and treatment methods to children and reestablished the importance of play and play therapy.

Historically, play therapy was designed to treat more generic problems without addressing specific diagnoses, but more importantly, the generic treatment approach could be maintained while still assessing for specific disorders (Jensen, Biesen, & Graham, 2017).

Despite that CCPT would be an extensive assessment process with weekly treatments, it shows potential to help identify any unreported underlying traumas that may be mistaken for ADHD. Play therapist, Ferro (personal communication, April 2, 2020), mentioned witnessing how CCPT surfaced unreported and hidden traumas in some of her children-clients diagnosed with ADHD, and after a number of sessions their symptoms reduced. In a particular case, Ferro (personal communication, April 2, 2020) worked with a diagnosed ADHD boy who, without prompt, played out an abandonment issue that was not previously reported or acknowledged. Although she was surprised to learn of his emotional conflict, she firmly believes CCPT was effective in treatment because "what he needed to do was work through his abandonment" (Ferro, personal communication, April 2, 2020). Over time, his symptoms lessened and Ferro (personal communication, April 2, 2020) questioned if CCPT was never used, would she have ever given him a place to work through that trauma.

Stewart et al. (2016) discussed a clinical case about a 6-year old boy who reportedly had difficulty following directions, sitting still, maintaining appropriate boundaries with peers, and managing emotional episodes. The teacher expressed concern of hyperactive behavior, and notably, his behaviors were more difficult on transitional days between his divorced parents' households (Stewart et al., 2016). After roughly 10 sessions of CCPT, both parents and teacher reported observing a drastic improvement in the boy's focus, attention, and emotion regulation (Stewart et al., 2016). Child-directed play provided the boy with an environment to work through his distress, resulting in more ease with transitions at both school and home, but also, the disposition of play provided an opportunity for him to communicate his needs and underlying issues in a way that seemed most natural (Stewart et al., 2016). While there were initial

suspicions of hyperactive behavior, CCPT was able to identify and address the boy's emotional distress, and further re-assess that ADHD was not the etiologic source of his diagnosis.

Looking at children's behaviors alone are not enough to accurately assess and form a diagnosis without considering if there is anything underlying. Not all children present with a trauma background during assessment, but their traumas emerge through play so they can address their inner emotional distress and communicate it to the therapist. Using CCPT as a form of assessment may be inconvenient of timeliness, however, it may be an optional tool to more accurately assess for underlying trauma and stressors that may be unknown to parents and guardians, and even more so to the child's comprehension and subconscious.

Conclusion

Some limitations occurred within this literature review. One limitation was that most of the research included either used DSM-III OR DSM-VI as sources of diagnostic reference, whereas this paper implemented the most recent version, DSM-V, as a reference source. Additionally, little to no research included outcomes, opinions, or experiences from children who were misdiagnosed or received CCPT as method of treatment. Although it is not an easy task, asking children about their feelings and reflections can help bring awareness and understanding to their experience of the therapeutic process (Carroll, 2000). Parents and guardians often answer and report on behalf of a child during assessments, so it's possible they don't fully know about a traumatic event, they don't comprehend the impact on the child, or they may minimize the child's experience for fear of judgment or to protect themselves (Schilpzand et al., 2017).

Early interventions are key to minimizing long-term and permanent effects of trauma in children (American Academy of Pediatrics, 2000). However, being able to identify and recognize trauma or PTSD symptoms is essential to offering effective treatment. Misdiagnosis

of ADHD may lead clinicians to use inappropriate or irrelevant interventions and failing to address and treat symptoms of trauma/PTSD by targeting disruptive behaviors instead could cause the child to suffer (Weinstein et al., 2000).

According to Stewart et al. (2016), research shows that CCPT in treatment is empirically validated for children with externalizing problems, internalizing problems, and academic problems. Research has shown that CCPT has provided effective treatment with successful results in improving children's presenting problems and needs. Although CCPT is generally utilized as a form of treatment, it has yet to be evaluated as a diagnostic method. Due to the need to build a relationship with the therapist, CCPT may be a lengthier diagnostic process, but it shouldn't be ruled out as an option.

To prevent misdiagnosis and mistreatment, evaluating the child is necessary, especially from their perspective and experience. It is also important to familiarize the developmental aspects of play and how children confront problems (Myers et al., 2011). Clinical questionnaires and interviewing alone is not enough for a child to fully comprehend or to relay traumatic information. Welcoming a child into a safe space to develop a connection with the therapist and to use symbolic expression may initiate comfort and trust within the child to reveal internal emotional conflict, stress, and trauma (Ogawa, 2004). Observing children's presenting behaviors alone is not enough to answer why the behaviors are present or what the source of the behaviors are. Because CCPT can explore deeper into the "why" questions, it has the potential to differentiate if children organically have ADHD or if they have underlying, unresolved trauma.

References

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Boparai, S. K. P., Au, V., Koita, K., Oh, D. L., Briner, S., Harris, N. B., & Bucci, M. (2018). Ameliorating the biological impacts of childhood adversity: A review of intervention programs. *Child Abuse & Neglect*, *81*, 82–105. doi: 10.1016/j.chiabu.2018.04.014

Biederman, J., & Faraone, S. V. (2005). Attention-deficit hyperactivity disorder. *The Lancet*, *366*(9481), 237–248. doi: 10.1016/s0140-6736(05)66915-2

Biederman, J., Petty, C. R., Spencer, T. J., Woodworth, K. Y., Bhide, P., Zhu, J., & Faraone, S. V. (2012). Examining the nature of the comorbidity between pediatric attention deficit/hyperactivity disorder and post-traumatic stress disorder. *Acta Psychiatrica Scandinavica*, *128*(1), 78–87. doi: 10.1111/acps.12011

Carroll. (2000). Evaluation of therapeutic play: a challenge for research. *Child Family Social Work*, *5*(1), 11–22. doi: 10.1046/j.1365-2206.2000.00136.x

Developmental Issues for Young Children in Foster Care. (2000). *Pediatrics*, *106*(5), 1145–1150. doi: 10.1542/peds.106.5.1145

Ferro, M. (2020, April 2). Phone Interview.

Ford, J. D., Racusin, R., Ellis, C. G., Daviss, W. B., Reiser, J., Fleischer, A., & Thomas, J. (2000). Child Maltreatment, other Trauma Exposure, and Posttraumatic Symptomatology among Children with Oppositional Defiant and Attention Deficit Hyperactivity Disorders. *Child Maltreatment*, *5*(3), 205–217. doi: 10.1177/1077559500005003001

Fuller-Thomson, E., & Lewis, D. A. (2015). The relationship between early adversities and attention-deficit/hyperactivity disorder. *Child Abuse & Neglect*, *47*, 94–101. doi: 10.1016/j.chiabu.2015.03.005

Gregorowski, C., & Seedat, S. (2013). Addressing childhood trauma in a developmental context. *Journal of Child & Adolescent Mental Health*, *25*(2), 105–118. doi: 10.2989/17280583.2013.795154

Hall, J. G. (2019). Child-centered play therapy as a means of healing children exposed to domestic violence. *International Journal of Play Therapy*, *28*(2), 98–106. doi: 10.1037/pla0000097

Jensen, S. A., Biesen, J. N., & Graham, E. R. (2017). A meta-analytic review of play therapy with emphasis on outcome measures. *Professional Psychology: Research and Practice*, *48*(5), 390–400. doi: 10.1037/pro0000148

Lee, S.-H., Park, Y., Jin, M. J., Lee, Y. J., & Hahn, S. W. (2017). Childhood Trauma Associated with Enhanced High Frequency Band Powers and Induced Subjective Inattention of Adults. *Frontiers in Behavioral Neuroscience, 11*. doi: 10.3389/fnbeh.2017.00148

Myers, C. E., Bratton, S. C., Hagen, C., & Findling, J. H. (2011). Development of the Trauma Play Scale: Comparison of children manifesting a history of interpersonal trauma with a normative sample. *International Journal of Play Therapy*, *20*(2), 66–78. doi: 10.1037/a0022667

Ogawa, Y. (2004). Childhood Trauma and Play Therapy Intervention for Traumatized Children. *Journal of Professional Counseling: Practice, Theory & Research*, *32*(1), 19–29. doi: 10.1080/15566382.2004.12033798

Park, S., Lee, J.-M., Kim, J.-W., Kwon, H., Cho, S.-C., Han, D. H., Cheong, J. H., Kim, B.-N. (2016). Increased white matter connectivity in traumatized children with attention deficit hyperactivity disorder. *Psychiatry Research: Neuroimaging*, *247*, 57–63. doi:10.1016/j.pscychresns.2015.09.012

Pottinger, A. M. (2014). The Use of Trauma Counseling for Children with Attention-Deficit Hyperactivity Disorder. *International Journal for the Advancement of Counselling*, *37*(1), 17–27. doi: 10.1007/s10447-014-9222-3

Ray, D. C., Schottelkorb, A., & Tsai, M.-H. (2007). Play therapy with children exhibiting symptoms of attention deficit hyperactivity disorder. *International Journal of Play Therapy*, *16*(2), 95–111. doi: 10.1037/1555-6824.16.2.95

Robinson, A., Simpson, C., & Hott, B. L. (2017). The effects of child-centered play therapy on the behavioral performance of three first grade students with ADHD. *International Journal of Play Therapy*, *26*(2), 73–83. doi: 10.1037/pla0000047

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

Schilpzand, E. J., Sciberras, E., Alisic, E., Efron, D., Hazell, P., Jongeling, B., … Nicholson, J. M. (2017). Trauma exposure in children with and without ADHD: prevalence and functional impairment in a community-based study of 6–8-year-old Australian children. *European Child & Adolescent Psychiatry*, *27*(6), 811–819. doi: 10.1007/s00787-017-1067-y

Schultz, W. (2016). Child-Centered Play Therapy. *Reason Papers*, *38*(1), 21–37.

Sories, F., Maier, C., Beer, A., & Thomas, V. (2015). Addressing the Needs of Military Children Through Family-Based Play Therapy. *Contemporary Family Therapy*, *37*(3), 209–220. doi: 10.1007/s10591-015-9342-x

Spitzer, J., Schrager, S. M., Imagawa, K. K., & Vanderbilt, D. L. (2016). Clinician disparities in anxiety and trauma screening among children with ADHD: A pilot study. *Childrens Health Care*, *46*(4), 344–355. doi: 10.1080/02739615.2016.1193809

Stewart, A. L., Field, T. A., & Echterling, L. G. (2016). Neuroscience and the magic of play therapy. *International Journal of Play Therapy*, *25*(1), 4–13. doi: 10.1037/pla0000016

Swank, J. M., & Smith-Adcock, S. (2018). On-task behavior of children with attention-deficit/hyperactivity disorder: Examining treatment effectiveness of play therapy interventions. *International Journal of Play Therapy*, *27*(4), 187–197. doi: 10.1037/pla0000084

Szymanski, K., Sapanski, L., & Conway, F. (2011). Trauma and ADHD – Association or Diagnostic Confusion? A Clinical Perspective. *Journal of Infant, Child, and Adolescent Psychotherapy*, *10*(1), 51–59. doi: 10.1080/15289168.2011.575704

Terr, L. C. (1989). Treating psychic trauma in children: A preliminary discussion. *Journal of Traumatic Stress*, *2*(1), 3–20. doi: 10.1002/jts.2490020103

Weinstein, D., Staffelbach, D., & Biaggio, M. (2000). Attention-deficit hyperactivity disorder and posttraumatic stress disorder: differential diagnosis in childhood sexual

abuse. *Clinical Psychology Review*, *20*(3), 359–378. doi: 10.1016/s0272-7358(98)00107-x

THESIS APPROVAL FORM

Lesley University
Graduate School of Arts & Social Sciences
Expressive Therapies Division
Master of Arts in Clinical Mental Health Counseling: Expressive Arts Therapy

Student's Name: Bethany Gibbons

Type of Project: Thesis

Title: Using Child-Centered Play Therapy as an Intervention to Reassess ADHD Diagnoses and Trauma in Children: A Literature Review

Date of Graduation: May 16, 2020

In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

Thesis Advisor: Elizabeth Kellogg, PhD