The Effects of and Interventions for Trauma on Child and Adolescent Development

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A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Spring 2021

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial
fulfillment of the requirements for graduation from the
Honors Program of Liberty University.

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Abstract

Trauma is generally defined as an event that causes a lasting impact on an individual, ranging from a natural disaster or medical trauma to abuse. Traumatic events greatly impact development, especially when experienced during childhood and adolescence. These first eighteen years of a child's life can be divided into three main stages using Erikson's psychosocial theory and Piaget's cognitive development theory as these theories provide comprehensive insight into the development of a child. Because of the differences in traumatic experiences and the age of the child, the effects and manifestations of a trauma's influence will vary between these three different stages of childhood and adolescence. Many treatments have been developed that are deemed effective among children and adolescents, mainly involving medication and psychotherapy.

The Effects of and Interventions for Trauma on Child and Adolescent Development

Trauma is one of the most difficult topics when discussing child and adolescent development because no one wants to think about such horrific acts affecting such innocent lives. However, various traumatic events impact the lives of many children, and the effects can manifest differently in each child as they develop. Erik Erikson's (1971) psychosocial theory and Jean Piaget's (1964) theory on cognitive development provide a much-needed context when deciphering the effects of trauma on the different stages of development. Overall, trauma can take many forms and has many negative effects on a child's life throughout the course of development; however, these children and adolescents are not without hope as there are numerous successful interventions addressing trauma experienced during these stages of life.

Trauma

Definition of Trauma

Trauma has been defined many different ways since the concept was first understood, and the definition continues to change slightly depending on the organization discussing the topic. The Substance Abuse and Mental Health Services Administration (SAMHSA) asserts:

> [i]ndividual trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being. (SAMHSA's Trauma and Justice Strategic Initiative, 2014, p. 7)

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013) provides criteria for a traumatic event, stating that one must experience "[e]xposure to actual or threatened death, serious injury, or sexual violence" (p. 271).

However, these events could be experienced in various ways, such as being directly exposed to the event, witnessing the event as it happened to others, learning of a violent or accidental event experienced by a close family member or friend, or repeatedly being exposed to the details of traumatic events (American Psychiatric Association, 2013). This last form of exposure, which is also known as secondary trauma or compassion fatigue, can often affect first responders who are frequently seeing the trauma of others, such as disposing of remains or listening to children report details of horrific abuse.

Types of Trauma

Due to the many means of exposure, an individual may encounter multiple traumatic experiences (The National Child Traumatic Stress Network, 2020-b). One such event is natural disasters, which are environmental occurrences that include wildfires, tornadoes, earthquakes, volcanoes, hurricanes and tropical storms, floods, landslides, droughts, and storms (Hutchison, 2011). These events are very sudden and can destroy property, create economic hardship, cause physical injuries, and take lives, dramatically altering family and community life. Medical trauma, another potential traumatic experience, involves sudden and disastrous events or witnessing a medical calamity in the life of one's child (American Psychiatric Association, 2013). In addition, losing a loved one is considered a traumatic event in the DSM-5 if the death was violent or accidental, including assault, suicide, or a serious accident or injury. Acts of violence are another traumatic event that include all forms of terrorism, war or armed conflict, homicide, suicide, and school violence (Hutchison, 2011). These acts may be completed with various weapons, such as knives, guns, bombs, and other traditional weapons as well as chemical, biological, or nuclear agents intended to cause harm, but the use of weapons is not a required criteria for a traumatic act of violence. Refugee experiences can be traumatic as many

refugees are fleeing acts of violence in search of a new and safe life while they endure harsh circumstances on their way to freedom (Hutchison, 2011). Another form of traumatic exposure is directly or indirectly being exposed to intimate partner violence (IPV) as a child; this observation can involve seeing or hearing IPV or even attempting to stop the abuse firsthand (McDonald et al., 2016; Lehmann & Rabenstein, 2002). An additional traumatic experience is being bullied by peers. This deliberate act is performed with the intention of inflicting harm as an attempt to elevate one's individual status by physically, verbally, psychologically, socially, or technologically harming another individual who is seen as less powerful (The National Child Traumatic Stress Network, 2020-a).

Another type of traumatic experience is abuse. As one of the most commonly recognized forms of childhood trauma, abuse comes in a variety of forms: neglect, emotional and verbal abuse, physical abuse, and sexual abuse. The most commonly reported form of child abuse is neglect, which occurs when a caregiver fails to meet a child's basic needs for food, clothing, shelter, supervision, protection, medical care, education, attachment, and caring attention (Hildyard & Wolfe, 2002; Schilling & Christian, 2014). Neglect can either present as "an ongoing pattern of poor care" or a "single, momentary [lapse] in care" (Schilling & Christian, 2014, p. 312) and may lead to a child being abused by others due to the caregiver's lack of supervision (Hildyard & Wolfe, 2002). Emotional abuse is repeated behavior of the caregiver who tells a child that they are unloved or unwanted, severely impacting the physical, cognitive, emotional, or social development of a child (Hibbard et al., 2012). This form of maltreatment may involve verbal abuse, which is using words that psychologically harm a child, as well as active or passive behavior, regardless of the level or lack of intent. Physical abuse involves the injury of a child's physical body by various means with the most common injuries being bruises,

burns, fractures, and head or abdomen trauma (Schilling & Christian, 2014). This type of abuse may increase when the child cries or fails to control bodily functions; the prevalence also increases when individuals who are not related to the child live in the home. The last form of abuse is sexual abuse. There are many different definitions of child sexual abuse (CSA) with all of them involving an adult's sexual activity with a minor or a minor using force or coercion to attempt or complete a sexual act with another minor (Murray et al., 2014). CSA includes attempted and completed sexual contact, sexual acts, and sexual exploitation (e.g. viewing or photographing a child's genitals as well as selling pictures of a child, the permission to complete sexual acts with a child, or a child themselves). In addition, harassing, threatening, and forcing a child to view pornography are also CSA as contact is not required for the act to be illegal. These acts are considered CSA regardless of the child's awareness or consent.

The last form of traumatic exposure is complex trauma. While the above trauma experiences may be single events in a child's life, complex trauma is defined as a "traumatic event that is repetitive and occurs over an extended period of time, undermines primary caregiving relationships, and occurs at sensitive times with regard to brain development" (Kliethermes et al., 2014, p. 340). Common types of complex trauma experiences are physical, emotional, or sexual abuse, neglect, exposure to violence or domestic abuse, and medical trauma. Because of the repeated and chronic nature of complex trauma, the effects of the trauma exposure may place children at risk for additional traumatic experiences and lasting impairments (Cook et al., 2005). While there are many different types of trauma exposures, each of these events have the potential to cause severe distress in an individual's life.

Components of Trauma

As outlined in the SAMHSA definition of trauma above, three critical components define

a trauma: the event, the experience, and the effect (SAMHSA's Trauma and Justice Strategic Initiative, 2014). Because no two traumatic exposures are alike, whether or not an individual considers an event as traumatic is impacted by these three components. As mentioned earlier, there are many different traumatic events that one may experience. In addition to the type of the event, the duration, nature, exposure, and severity influence whether or not an event is considered traumatic by the individual. Next, the experience of the event holds great weight in determining traumatic exposure as no two people experience an event in the same way (SAMHSA's Trauma and Justice Strategic Initiative, 2014). An individual's view and interpretation of the event as well as the event's physical and psychological disruption of their life can vary from person to person and shape a traumatic exposure; an individual's cultural beliefs, social supports, and stage of development may also impact their experience. Events that invoke feelings of "humiliation, guilt, shame, betrayal, or silencing" often have more potential to be considered traumatic by the individual (SAMHSA's Trauma and Justice Strategic Initiative, 2014, p. 8). Lastly, the effects of an event on an individual's functioning and development can determine if an individual's experience is perceived as traumatic (SAMHSA's Trauma and Justice Strategic Initiative, 2014). Some effects may be triggered immediately after the event while others have a delayed onset or appear gradually; the effects may or may not be noticed by the individual. There are many different effects that a trauma can have on an individual's life and ways that those effects may be manifested as trauma is notorious for impacting many aspects of development and functioning.

The Effects of Trauma on Different Stages of Development

Childhood and adolescence can be divided into three main stages: birth to six, seven to twelve, and thirteen to eighteen. Erik Erikson (1971) and Jean Piaget (1964) theorize various

developmental steps taken in each of these stages, providing a comprehensive view of child and adolescent development. However, development can be greatly impacted by trauma which manifests itself differently in each stage.

Stage One

Description

Stage one includes children from the time of birth until age six. During this stage, much development takes place as the child learns how to explore the world around them, develops fine and gross motor skills, and understands how to use language. Erikson theorizes that children go through three psychosocial stages while in this age range: basic trust versus mistrust, autonomy versus shame and doubt, and initiative versus guilt (Erikson, 1971). Conversely, Piaget understands children to undergo two stages of cognitive development, including the sensorimotor stage and the preoperational stage (Piaget, 1964).

Erikson's basic trust versus mistrust stage occurs during the first year of a child's life as the child learns whether or not to place hope and trust in those around them (Erikson, 1971). In this stage, children possess "the enduring belief in the attainability of primal wishes in spite of the anarchic urges and rages of dependency" (Erikson, 1971, p. 262). Believing that their needs will be fulfilled, children test the dependency of their mother as she proves herself trustworthy to satisfy and regulate the needs of her infant child (Erikson, 1971).

The next stage, autonomy versus shame and doubt, takes place during early childhood between the ages of two and three (Erikson, 1971). During this stage, psychosocial autonomy is being developed as children grow physically and develop their muscles, gain practice with moving in various ways, learn to speak verbally, and understand the differences between various people and objects. Children of this age are very segmented in their thinking, seeing no gray area

between right and wrong, yes and no, and yours and mine. This stage is critical in determining the balance of a child's desire to do good and to do what they want; a child's confidence in their free-will comes from having self-control without losing their self-esteem. Just as the stage's name alludes, children are at risk for developing shame and doubt if they develop a sense of overcontrol or a lack of control; for this reason, it is imperative that children are given the right balance of control in this stage of their development. A child's overcompliance or impulsive decisions are rooted in their formation during this stage (Erikson, 1971). Having no autonomy creates an obsession with repetitiveness and an unforgiving conscience; when children in this stage doubt themselves and others, they can later develop compulsive behaviors or paranoid thinking, believing that they have "hidden critics and secret persecutors threatening from behind" (Erikson, 1971, p. 263). In this stage, children develop willpower, which is the determination to make one's own decisions and show self-control, regardless of the threatening feelings of shame and doubt as well as the frustration of being controlled by others (Erikson, 1971).

Erkison's (1971) next stage of initiative versus guilt occurs in the play age when a child is between the ages of three and six. While in this stage, children further develop independent movement and a sense of initiative. Not only do children watch and play with their peers, but they also begin to understand their expected role in society, imitating these roles in dramatic play. Intrusive learning promotes a child's curiosity about everything, including the differences between the sexes. In this stage, a child's "[i]nfantile guilt leads to the conflict between unbound initiative and repression or inhibition" (Erikson, 1971, p. 263), causing tension between a child's desire to follow their own will versus the will of their authorities. The family unit teaches the child where play ends and real life begins through modeling various scenarios (Erikson, 1971). Children also develop a conscience through their feelings of guilt as well as learn that language

is shared between different individuals. Morals are developed as children learn what is allowed, and dreams are formed as children learn what is possible. In this stage, children develop a sense of purpose, which is the courage to create and pursue goals while being guided by conscience without being hindered by guilt or the threat of punishment.

Piaget's (1964) sensorimotor stage takes place in the first two years of a child's life. In this preverbal stage, infants learn to explore the world around them while gaining practical knowledge about their environment. This knowledge helps them develop an understanding of the world which is later used to interpret new information gained through new experiences. Children also learn object permanence in this stage, which is the idea that objects do not cease to exist when they are not in sight.

The preoperational stage occurs between the ages of two and seven as a child develops their use of language, symbolic function, and representation of thought (Piaget, 1964). By the end of this stage, children develop an understanding of the conservation of quantity and reversible actions. Throughout this period of development, children reconstruct everything that they learned in the previous stage as they cognitively prepare to think operationally in the next stage, laying the groundwork for advanced levels of thought.

Effects and Manifestations of Trauma

Trauma has many adverse effects on children in this first stage of development. Infants in the basic trust versus mistrust stage who undergo trauma are not able to trust their caregivers for reliable care, especially if their trauma was caused by their caregiver (Hutchison, 2011). This attachment relationship is disrupted and/or damaged in neglectful or abusive homes as children typically are not attended to when they are crying, not shown comfort or nurturance, and experience a lack of stability and routine. This lack of stability does not teach the infant to trust

the world around them. These infants can often experience effects of separation trauma which include psychosomatic conditions and regression. These psychosomatic conditions are physical manifestations of the trauma's effects and include difficulties feeding, disruptions in sleep, constipation episodes, and increased vulnerability to infections of the respiratory system as well as sore throats. Conversely, regression involves a child losing developmental gains and can include clinging to a caregiver, sucking their thumb or fist, rocking, losing speech gains, losing control of their impulses, and losing control of their excretory functions. The developmental tasks that are most recently learned have the highest risk of being lost due to a traumatic experience.

During Erikson's stage of autonomy versus shame and doubt, toddlers who have experienced trauma may display hyperaggressive behavior, especially victims of physical abuse (Hutchison, 2011). Their impulse control may be impaired as a result of trauma, especially trauma involving physical or sexual abuse. Toilet training is also negatively affected as many children experience a loss of muscle control and regression displayed through the lack of bladder and bowel control. Some undergo a decrease in independent behavior and can feel shame and self-consciousness about their behavior. Many toddlers who experience trauma fail to establish autonomy, doubting themselves and lacking self-will as they continue to be controlled by others.

Children who experience trauma may become trapped in the guilt crisis of Erikson's initiative versus guilt stage. These children "face the danger of feeling extreme guilt for their thoughts, fantasies, and actions" as they may have murderous thoughts and fantasies as a result of the trauma (Hutchison, 2011, p. 38). Children in the play ages of three to six who have experienced trauma may not trust their sense of judgement, feeling a sense of hopelessness, doubt of self, and confusion (Hutchison, 2011). In addition, they may also be inhibited in their

decision-making as they are constantly expecting and fearing possible punishment.

The effects of trauma can manifest themselves in different ways in the life of a child from birth to age three. Some children experience fear, especially regarding excessive and prolonged separation and stranger anxiety (Hutchison, 2011). Hyperarousal is another common symptom, which can be displayed through heightened startle reactions to sudden movements and sounds. Aggression, including temper tantrums, kicking, biting, and yelling, can be a child's way of communicating their frustrations, emotions, or confusion when they cannot express these feelings verbally. Sleep difficulties may also present themselves as children experience night terrors and nightmares or are too scared to sleep alone. Clinging behaviors may also present after a young child endures a trauma as they experience an extreme need for safety and protection. Children may also become easily frustrated with sudden and unexpected changes or when they lose a sense of reliability in others. Regression, as mentioned above, may also occur as children lose previously developed skills at the onset of a trauma. Lastly, whining and being irritable are common as children have difficulties regulating their emotions and being soothed.

Children between the ages of three and six experience similar reactions to trauma, but these reactions may be expressed differently due to the higher levels of development. Some children reenact the traumatic incident through repetitive and symbolic play in an attempt to gain control and relief (Hutchison, 2011). Regression may occur at this stage as well, as children may revert into using baby talk and being too scared to sleep alone. Clinging behavior may also be present as children seek to feel safe and comforted by their caregivers. Children may also experience insecurity due to their world being dramatically altered by the trauma; their insecurities develop as they look for reassurance and security in their caregivers instead of trusting their own abilities. Anger may also be displayed and can lead to aggressive behaviors

against themselves and others. In addition, children may throw temper tantrums when they cannot or will not verbally express their emotions. Normal developmental fears may become extreme and obsessive in response to trauma. Lastly, children may experience sleep disturbances that are caused by nightmares, sleepwalking, or extreme fears.

Stage Two

Description

Stage two consist of children between the ages of six and twelve as they progress through elementary school. During this stage, children develop strong relationships with peers and start mastering new tasks as they begin to understand higher level cognitive concepts. Erikson's theory proposes that the psychosocial stage of industry versus inferiority occurs during this age range while Piaget hypothesizes that the cognitive stage of concrete operations takes place in this developmental period (Erikson, 1971; Piaget, 1964).

The industry versus inferiority stage takes place between the ages of six to twelve as a child progresses through the school ages (Erikson, 1971). Children form a sense of industriousness as they see the tools and resources available to them. Many eagerly participate in school which has begun to override the desires for play previously possessed in former stages. Learning in this stage occurs systematically in the classroom while children also learn from peers who are further along in their development. However, while all this learning is taking place, children can develop a sense of inferiority and inadequacy which can stifle their curiosity and desire to learn. This inferiority can also be developed from finding their worth in their status, parents, or race instead of their abilities and longing to learn. Furthermore, if a child too easily turns to work and abandons their imagination, they can become trapped in technology and role types. Erikson (1971) places much importance on this stage, saying, "This is socially a most

decisive stage, preparing the child for a hierarchy of learning experienced which he will undergo with the help of cooperative peers and instructive adults" (p. 263). Here, children first learn of the division of labor and the differences of opportunities afforded to them (Erikson, 1971). Competence is the key developmental task in this stage as children acquire the ability to exercise their movement and intelligence while completing serious tasks, laying the groundwork for cooperation and group work in the future.

Piaget's (1964) concept of operations first appears in the stage of concrete operations between the ages of seven and eleven. These operational cognitive skills are used on objects but have not yet impacted reasoning and logic processes. In this stage, children learn to classify objects, order sequences, understand numbers, and complete spatial and temporal operations. They also develop basic levels of understanding regarding categories and the connections between them as well as math, geometry, and physics. However, these operations may not fully be applied to all areas of thought as the child is still cognitively developing.

Effects and Manifestations of Trauma

Traumatic events can affect a child's development in Erikson's industry versus inferiority stage through causing regression as children lose the ability to accomplish recently developed tasks (Hutchison, 2011). This regression can increase feelings of inferiority and inadequacy as children compare themselves to their peers; these feelings further elevate the crisis of inferiority above one's sense of industry. Children may be lacking self-esteem and confidence in their abilities due to being belittled and made to feel that they are worthless.

The effects of trauma may be manifest in various ways between the ages of six and twelve. Children may experience separation anxiety as they are extremely scared that something will happen to their caregiver in their absence, refusing to leave their caregiver's side

(Hutchison, 2011). Feelings of guilt may also be experienced due to children blaming themselves for the trauma or for not being able to assist during the crisis. Clinging, a form of regression in this stage, can occur when children rely on their caregiver's constant presence or a security object from their earlier childhood. Children may also experience a decreased interest in previously enjoyed activities, possibly due to feelings of depression, anxiety, or confusion as well as overwhelming stimulation. In this stage, children attempting to regain control may reenact the trauma through play in order to combat the feelings of helplessness brought by the trauma. Impulse control may be reduced as children work through the trauma. Children may also experience somatic symptoms such as "headaches, dizziness, stomach pains, difficulty breathing, and other physical ailments" (Hutchison, 2011, p. 58). Avoidance is another key effect of trauma as children may avoid reminders of the traumatic incident; this behavior may result in children feeling alone due to the disruption of their daily activities, interactions with others, and academic progress. Intrusive thoughts, sounds, and images can often remind children of the traumatic incident at inconvenient times, triggering more traumatic symptoms to be expressed in these moments. Recurrent nightmares may haunt the sleep of children after a trauma as well as other sleep disturbances. In addition, hypervigilance and the fear of further trauma can cause the child to show extreme caution as they go through daily life. Children may also experience sadness and withdrawal after a traumatic event, feeling lonely and losing interest in previously enjoyed activities. Regression is also common as children become more dependent and resort to previous developmental behaviors. After experiencing a trauma, children may feel insecure about what their future holds, tempting fate through engaging in reckless behavior. Children may also have difficulty focusing and may experience a decrease in school performance as they adjust and work through the effects of the trauma. Lastly, children can experience difficulty trusting others,

thinking that they must provide for themselves and meet their own basic needs after enduring trauma.

Stage Three

Description

The last stage takes place between the ages of thirteen and eighteen as a child progresses through the definitive phase of adolescence. During this time in their life, teenagers undergo many physical, mental, emotional, and social changes as they mature into fully-grown adults. Erikson identifies these years as the conflict of identity versus identity confusion while Piaget labels the cognitive processes and growth as formal operations (Erikson, 1971; Piaget, 1964).

Identity versus identity confusion occurs as childhood ends and puberty begins (Erikson, 1971). An adolescent's main focus during this stage is defining their psychosocial identity and "fitting their rudimentary gifts and skills to the occupational prototypes of the culture" (Erikson, 1971, p. 264) as they look towards their future. Fluctuations between impulsivity and restraint occur as the teenager ideologically seeks to define their values (Erikson, 1971). Adolescents also develop a sense of fidelity, which is one's "opportunity to fulfill personal potentialities" while being able to remain loyal to themselves and their significant others, despite differences of beliefs (Erikson, 1971, p. 264); this concept of fidelity is the foundation of one's developing identity (Erikson, 1971). Many become romantically involved and invest in relationships with a significant other as an attempt to define themselves through their reflection in the other idealized individual. Cliques and stereotypes of themselves, their perceived competitors, and their ideals can help adolescents when they revert to former insecurities. When stressful times arise, the teenage mind becomes ideologically focused as it seeks to unify ideas. As adolescents develop their own set of ideals and values, they seek affirmation and confirmation from peers in order to

solidify their thoughts.

During Piaget's (1964) formal operations stage which takes place starting at age eleven, individuals learn to develop reasoning skills, applying operations to hypotheses in addition to objects. While the understanding of classes, relations, and numbers persists, understanding of logical processes develops. Adolescents and adults are able to combine their thoughts for more advanced theories while also understanding more complicated levels of group interactions.

Effects and Manifestations of Trauma

Adolescents in Erikson's identity versus identity confusion experience many negative effects of trauma. These teenagers may incorrectly identify with an abused or abusive caregiver, taking on their characteristics in an attempt to establish an identity (Hutchison, 2011). In addition, the adolescent may have to prematurely grow up in order to help those around them and deal with the trauma that the adolescent has endured. This new role disrupts a teenager's formation of identity and can cause difficulties for the teenager when they attempt to return to their adolescent role once the crisis has passed. Adolescents may fear adulthood and the aging process due to the negative experience that caused them to mature quickly, possibly even prolonging the start of adulthood.

Adolescents who have endured trauma may show many manifestations of the trauma's effects on their life. They may have difficulties sleeping or experience nightmares that force them to relive the trauma (Hutchison, 2011). Avoidance of traumatic reminders and withdrawal from friends and family is common as teenagers work through trauma. Adolescents often feel guilty for not helping others or not changing the result of the traumatic event; this guilt can negatively impact their self-image. They may also experience pessimism towards the future and lack hope for what is to come. Teenagers often show diminished interest for previously enjoyed

activities in response to the trauma. Hypervigilance and difficulty concentrating are often difficult and can cause relational and academic problems for the adolescents. Intrusive imagery, such as flashbacks, can be triggered by small associations with the trauma and can overwhelm the adolescent. Teenagers often attempt to numb their emotions in order to avoid feelings of retraumatization; some may even depend on alcohol and drugs to provide increased emotional numbing. Appetite disturbances are common after experiencing trauma as adolescents may attempt to gain control over their situation by controlling their food intake. Many have feelings of depression or anger due to the traumatic experience. Sexual promiscuity and unplanned pregnancy can occur after an adolescent endures a trauma as they attempt to distract themselves from the traumatic event through becoming physically involved with others. Somatic complaints, such as "headaches, dizziness, breathing difficulties, stomach upsets, and other somatic complaints" can be found after a trauma without a medical explanation (Hutchison, 2011, p. 62). Lastly, suicidal ideation and suicide attempts can occur after an adolescent experiences a trauma due to the extreme sense of hopelessness and depression that results from their traumatic exposure (Hutchison, 2011).

Interventions for Child and Adolescent Trauma

Each child and adolescent who endures a traumatic event will experience varying effects as a direct result of the trauma; these effects have the potential to greatly impact daily functioning. Because of a trauma's countless effects and the personality differences of the individual, many treatment options have been developed in order to meet the needs of each individual and address their symptoms differently through using various theories and techniques (Hutchison, 2011). There are several intervention approaches used when helping children and adolescents who have experienced trauma, most of them involving medication and

psychotherapy.

Interventions through Medication

While a majority of treatment for traumatized children and adolescents uses psychotherapy, pharmacological intervention may be necessary when psychiatric symptoms or diseases appear as a response to childhood trauma (CT) (Panaccione et al., 2020); in many cases, a combination of psychotherapy and medication is used for best treatment. Research has shown that "psychiatric patients with severe CT tend to be prescribed higher doses of medications, especially antipsychotics and mood stabilizers, have significantly longer time to remit, and need more frequently a combined treatment with an additional class of medication" (Panaccione et al., 2020, p. 432). Some medication prescribed to treat those with CT include antidepressants, mood stabilizers, antipsychotics, and benzodiazepines (Panaccione et al., 2020).

Antidepressants

Antidepressants are a type of medication commonly used to treat depression as well as anxiety, insomnia, and pain (National Institute of Mental Health, 2016). There are several different types of antidepressants, including selective serotonin reuptake inhibitors (SSRIs), serotonin and norepinephrine reuptake inhibitors (SNRIs), bupropion, tricyclics, tetracyclics, and monoamine oxidase inhibitors (MAOIs). Clients with CT may respond differently to antidepressants, possibly due to altered neurobiological pathways that underlie one's mood changes (Panaccione et al., 2020). Individuals struggling with depression and CT respond better to "antidepressants with higher affinity for the serotonin transporter" (Panaccione et al., 2020, p. 433). Research supports the hypothesis that "early pharmacological intervention might represent an effective way to prevent the development of psychiatric disorders" later in development (Panaccione et al., 2020, p. 434). However, earlier traumatic experiences in one's life predict

poorer responses to antidepressants (Panaccione et al., 2020).

Mood Stabilizers

Mood stabilizers are a type of medication that help regulate mood changes by decreasing the brain's abnormal activity (National Institute of Mental Health, 2016). Like antipsychotic medications, mood stabilizers also have a poorer response among those with CT, and higher doses are often prescribed to those who have experienced more severe trauma (Panaccione et al., 2020). The components in the medications are also affected as individuals who have experienced at least two traumatic events are almost five times as likely to be nonresponsive to lithium in comparison to those who have not experienced trauma: "In these subjects, augmentation with antipsychotics… showed some efficacy in managing mood episodes, particularly in younger individuals" (Panaccione et al., 2020, p. 434).

Antipsychotics

Antipsychotics are mainly used to treat psychosis. While they help to alleviate negative symptoms remove barriers between an individual and reality, antipsychotics do not cure disorders or conditions (National Institute of Mental Health, 2016). This type of drug is similar to the previous types of medication in that it is less effective for those with CT and that higher doses are typically prescribed to those with more severe trauma histories (Panaccione et al., 2020). A predictor of an individual's poor response to antipsychotic medication is emotional abuse. According to Panaccione et al. (2020), "Some evidence suggests that clinical response to antipsychotics is mediated by the interaction between predisposing factors and the neurobiological changes correlated to CT" (p. 434), but research is not yet conclusive. Irregularities in the hypothalamic-pituitary-adrenal (HPA) and immune systems that are found in psychotic individuals who have experienced childhood trauma help to mediate and predict a

decreased response to atypical antipsychotic medications (Panaccione et al., 2020).

Benzodiazepines

The last category of medication typically used to treat those with childhood trauma is benzodiazepines which is a commonly prescribed anti-anxiety medication (National Institute of Mental Health, 2016). The use of benzodiazepines is not encouraged for those who have a history of trauma due to the addictive capabilities of the drug and the increased risk of substance abuse for traumatized individuals (Panaccione et al., 2020). In addition, research also discourages prescribing benzodiazepines to those who recently experienced trauma as this type of medication may interfere with the HPA system's response to stress and increase the individual's vulnerability to stress in the future.

Interventions through Psychotherapy

Psychotherapy is the main intervention used when treating trauma in children and adolescents as it helps to engage and prepare traumatized children for exposure techniques that may temporarily intensify symptomology in an attempt to decrease overall symptoms (Hutchison, 2011). The goal of psychotherapy is "to help the child examine, confront, and master his or her traumatic experiences and accompanying feelings in a safe way" (Hutchison, 2011, p. 81-82). Treatment is best when provided in the acute phase as symptoms are most noticeable and the correlating emotions are most felt during this time (Hutchison, 2011). Psychotherapy occurs in three main settings: individual therapy, family therapy, and group therapy.

Individual Psychotherapy

Individual psychotherapy takes place between a counselor and a client. In this type of intervention, there are no additional people involved in the individual therapy sessions. However, parent involvement "as agent, medium, and support for the therapeutic process" is beneficial in

the child's There are many different types of individual psychotherapy, including psychodynamic therapy, play therapy, cognitive-behavioral therapy, eye-movement desensitization reprocessing, and prolonged exposure (Hutchison, 2011; Gomez & Brown, 2020; Stien & Kendall, 2013).

Psychodynamic Therapy. Psychodynamic therapy helps a child "integrate traumatic memories and emotions along with buried parts of the self" (Stien & Kendall, 2013, p. 139). In order to execute this type of therapy, counselors help children realistically assess their emotions and responses, think and cope effectively, develop greater levels of self-esteem, and contain their recollections of the trauma through helpful strategies (Hutchison, 2011). This form of intervention "is based on understanding the conscious and unconscious meanings that develop within the traumatic incident and its aftermath" (Hutchison, 2011, p. 82). Retelling the experience is an important aspect of this type of therapy; play materials may help young children retell the traumatic event (Hutchison, 2011). The goals of psychodynamic therapy are to help the child decrease their traumatic stress when remembering the traumatic event until the child can safely recall their experience, to allow the child to express their thoughts and feelings that arise when they remember the traumatic event, and to teach and develop the child's ability to practice positive coping skills.

Play Therapy. Unlike other types of psychodynamic therapy that center around speech, play therapy centers around play as children are better able to express themselves through play than through words. This type of therapy "uses play as a mechanism for allowing abused children to use symbols (toys) to externalize their internal word, project their thoughts and feelings, and process potentially overwhelming emotional and cognitive material from a safe distance" (National Crime and Victims Research and Treatment Center & Center for Sexual

Assault and Traumatic Stress, 2003, p. 54). Counselors allow children to disconnect themselves from the problem or traumatic event while still prompting the child to deal with what they are facing (Hutchison, 2011). Through the use of play materials such as dolls, puppets, clay, and drawings, children are able to communicate without verbalizing their fears, thoughts, or experiences; the therapist is also able to use these materials to teach new coping strategies and show children that they are not alone. In play therapy, "The child is able to convey traumatic memories, explore fantasies and impulses, and communicate his or her experiences in a safe and nonthreatening environment" (Hutchison, 2011, p. 84). Children are able to see how their repetitive play and traumatic experiences connect with the therapist's help (Hutchison, 2011). The therapist also incorporates the child's dreams, fantasies, and behaviors in the play and helps the child recognize and understand their defenses.

Cognitive-behavioral Therapy. Cognitive-behavioral Therapy (CBT) is used to "address problematic behaviors and help the child build new skills" (Stien & Kendall, 2013, p. 139). This type of therapy "is designed to reduce children's negative emotional and behavioral responses and correct maladaptive beliefs and attributions related to the abuse experiences" (National Crime and Victims Research and Treatment Center & Center for Sexual Assault and Traumatic Stress, 2003, p. 49). The goal of CBT is to help the child understand and make sense of the trauma as well as conquer anxieties and feelings of helplessness (Hutchison, 2011). This goal may be met through various formats according to the type of traumatic experience as the therapist teaches the child how to manage anxiety, anger, and negative thoughts (Hutchison, 2011). CBT may address specific relational problems or poor anger management. Some important aspects are normalizing traumatic responses and helping the child to restructure maladaptive thoughts. For children, CBT is focused on treatment for emotions and behavior,

family engagement, and social problems experienced in various settings (Gomez & Brown, 2020). Adolescents benefit from CBT the most "when they are able to successfully challenge their false cognitions and beliefs because it promotes different perceptions and greater adaptability to their trauma" (Gomez & Brown, 2020, p. 452). Research supports CBT as one of the most effective interventions for PTSD in children, especially when a history of sexual abuse is present (Hutchison, 2011). CBT can be effective in individual, group, and family settings and can use various behavioral methods, including exposure therapy, stress inoculation training, and systematic desensitization (Gomez & Brown, 2020; Hutchison, 2011).

Exposure Therapy. Exposure therapy allows a child to systematically confront the fears and reminders stemming from their traumatic experience (Hutchison, 2011). Behavioral, biological, and cognitive responses are gradually changed with continuous exposure, making exposure therapy effective in reducing PTSD symptoms. Exposure therapy uses frightening and safe stimulation to confront the child continuously until the level of anxiety upon exposure decreases. There are two types of exposure used in exposure therapy: imaginal exposure and in vivo exposure. In imaginal exposure, the child recalls their memories of the traumatic event. Therapists may ask young children to draw and verbally describe the event as children of this age may have "difficulty imagining traumatic material, following detailed relaxation procedures, or tolerating prolonged exposure methods" (Hutchison, 2011, p. 88). In vivo exposure occurs when the child is confronted with or is nearby the actual stimuli (Hutchison, 2011). Exposure therapy turns into implosive therapy when exposure to the stimulant is prolonged; therapists should use caution when using this type of therapy with children as it may retraumatize them as well as be too difficult for them to remember the event or change their maladaptive beliefs regarding the event. In exposure therapy, the therapist may introduce anxiety management techniques when the

child is experiencing overwhelming affective responses. This technique allows children to continue exposure while giving clients control, making the exposure process more manageable for the child.

Stress Inoculation Training. Stress inoculation training (SIT) is known as the "most common form of anxiety management" (Hutchison, 2011, p. 90). Some techniques involved in SIT are "progressive relaxation skills, guided self-talk, role-playing, thought stopping, breath control, and covert modeling" (Hutchison, 2011, p. 90). This type of psychotherapy shows many short-term benefits, but the similar technique of prolonged exposure is known to have more lasting results (Hutchison, 2011). In SIT, relaxation procedures are able to bring instantaneous anxiety relief and are often recommended for use in the acute phase of one's traumatic response.

Systematic Desensitization. The term systematic desensitization refers to a treatment involving a brief duration of exposure and a low level of arousal (Hutchison, 2011). As the therapist works to decondition the child's fear, "the child, who is accompanied by the therapist, undergoes gradual exposure to less-feared objects, while being shown simultaneously how to relax until he or she is able to face the most feared object successfully" (Hutchison, 2011, p. 91). When this type of treatment is performed in the first few months of a child's life, direct interaction is typically included between the caregiver and infant; these interactions usually involve caregiving routines that are imperative to the child's life (Hutchison, 2011).

Eye-movement Desensitization Reprocessing. Eye-movement desensitization reprocessing (EMDR) is a recently developed type of therapy that integrates exposure therapy with client-centered principles (Hutchison, 2011). EMDR attempts to "restart and facilitate blocked processing of the traumatic memory, promote more adaptive cognitions regarding the trauma, and to install alternative positive cognitions, coping strategies, and adaptive behaviors"

(National Crime and Victims Research and Treatment Center & Center for Sexual Assault and Traumatic Stress, 2003, p. 39). Allowing the client to process the trauma while physically and mentally relaxed, this type of therapy "uses rhythmic left-right bilateral stimulation (eye movement or taps) to help induce REM (rapid eye movement) that in turn, facilitates the release of unaddressed cognitive, emotional, and physiological trauma reactions" (Gomez & Brown, 2020, p. 453). There are eight phases of treatment, including imagery, negative cognition, positive cognition, validation of cognition scale, emotion, subjective units of disturbance scale, physical sensation, and eye movements (Gomez & Brown, 2020; Hutchison, 2011). In the imagery phase, the client selects a representative image of the traumatic event, usually choosing one of the most distressing images remembered (Hutchison, 2011). During the following negative and positive cognition phases, the client provides a verbal description of both negative and positive self-beliefs formed from the traumatic memory. The client then ranks the validity of the positive cognition on a scale from 1 to 7. The next stage is the emotion phase as the client verbally describes their emotional reaction to the chosen image of the traumatic event. This emotion is then ranked on the intensity of its disturbance to the client on a scale from 1 to 10. The client then describes any physical sensations brought by the recollection of the traumatic event. The last phase is the eye movement phase which categorizes the desensitization, installation, body scan, and closure phases of treatment. In this phase, the client's eye movement tracks the therapist's movement of an object as the client processes various aspects of the traumatic memory and scans their body for tension or discomfort stemming from the recollection. Before ending the session, the therapist helps the client relax. At the beginning of the following session, the counselor will review the previous session and listen to the client's report of their improved functioning. When using this type of therapy with younger children,

counselors will often decrease the duration of the procedure and increase the involvement of parents. Through a systematic review of eight studies on the effectiveness of EMDR, Field and Cottrell (2011) suggest that "there is a greater impact for EMDR on the cognitive re-experiencing subgroup than on the behavioural avoidance subgroup of symptoms" (p. 386). While EMDR was controversial at the time of its conception, it has been proven effective in multiple studies with various ages, types of traumatic events, and trauma histories (Gomez & Brown, 2020).

Prolonged Exposure. While prolonged exposure (PE) is proven to be effective with adults, research has found mixed findings in its effectiveness with children under the age of 12 (Gomez & Brown, 2020). High attrition rates account for the 50% success rate of PE. However, PE is seen as promising to adolescents through the 14-week program of Prolonged Exposure for Adolescents (PE-A). PE-A "includes a develop developmentally appropriate module focused on personal safety while encouraging open dialogue to support adolescents' in confronting their traumas" (Gomez & Brown, 2020, p. 452).

Family Therapy

Family therapy takes place when a counselor works with a family to improve family functioning and strengthen emotional bonds. In this type of therapy, the family attends therapy sessions together as the therapist mediates conversations between members. Breunlin and Jacobsen (2014) summarize two categories of family therapy: Whole Family Therapy (WFT) and Relational Family Therapy (RFT). WFT involves all immediate family members in the therapeutic process, relying on them all being in the same room during therapy sessions. Conversely, RFT works with only an individual or a subsystem of the family unit (e.g. mother and child) while understanding the systemic contexts and family functioning during the

therapeutic process without meeting with all family members at one time. While both of these categories of treatment are still in use, the practice of WFT has been decreasing in recent years.

Family therapy can take many different forms, including child-parent psychotherapy, attachment-trauma therapy, behavioral parent training interventions for conduct-disordered children, and corrective attachment therapy (Lieberman & Van Horn, 2009; National Crime and Victims Research and Treatment Center & Center for Sexual Assault and Traumatic Stress, 2003). According to Schneider et al. (2013), child-parent psychotherapy has the "strongest empirical support" of the types of family therapies (p. 3). This type of treatment focuses on helping the child to create and communicate a trauma narrative with their parent through play and empathetic communication; parents are also helped to accurately and empathetically respond to the emotions and behaviors of their child. Lucio and Nelson (2016) describe this treatment as most effective for children seven years old and younger. In addition, family-focused, child-centered treatment interventions in child maltreatment are another form of family therapy that is primarily used when children have been maltreated by primary caregivers (National Crime and Victims Research and Treatment Center & Center for Sexual Assault and Traumatic Stress, 2003). Integrative family preservation services, multisystemic therapy for maltreated children and their families, and parent-child education program for physically abused parents are also forms of family therapy used by counselors. Some additional family therapies are family resolution therapy, parent-child interaction therapy, physical abuse-informed family therapy, parents united, and parents anonymous.

Group Therapy

Group therapy is another form of therapy in which a counselor guides discussion between group members as they work through various situations and emotions. This type of therapy is

especially helpful when a large group of individuals experience the same traumatic event (Hutchison, 2011). It is imperative that group therapists create a safe place for children to express their emotions and learn to control their behavior. Psychoeducation may be a beneficial aspect of group therapy.

Hutchison (2011) shares twelve important phases of group therapy that progress with each session in a 12-week program. The first is the introduction and education phase in which the therapist describes PTSD and its symptoms as well as the anticipated course of treatment. The next phase occurs when the group identifies the meaning they have assigned to the traumatic event. The third session of treatment is meant for clients to identify thoughts and feelings that were experienced during the traumatic event. Next, the group works to remember the avoided details of the traumatic event and reflect on the thoughts and feelings associated with those details. The fifth phase involves a group discussion surrounding the group members' reactions to previous sessions and assigned homework as well as the members' stuck points in therapy. The group then challenges and confronts their beliefs in the next session. Faulty thinking patterns are also discussed as group members identify automatic thinking patterns and connect them to their negative feelings and self-defeating behaviors. The eighth and ninth sessions focus on safety issues and trust issues respectively. Next, the group discusses their longing for power and control as well as how to maintain this balance. The group members then identify their esteem issues and learn that they are not at fault for the traumatic event. In the last session, the group discuss their intimacy issues and review the meaning of the event as discovered throughout the course of the group therapy sessions. These steps of group therapy can be beneficial when helping multiple individuals work through similar issues at the same time.

Conclusion

In conclusion, a traumatic event can alter the course of one's life and cause various effects that are manifested uniquely in the different stages of child and adolescent development. However, those who have experienced trauma are not without hope as there are many successful interventions proven to decrease traumatic responses and increase daily functioning. This information not only gives hope to trauma victims but also those who are involved in their recovery process, such as friends, family members, or professionals. It is important to understand the trauma that one endures when looking at its effects on their life and when deciding on the most effective treatment as this level of understanding has the potential to change a trauma victim's life forever.

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