

Northwestern College, Iowa

NWCommons

Master's Theses & Capstone Projects

Education

Spring 2020

Adverse Childhood Experiences and the Effect on Student Behavior

Katie Herther

Follow this and additional works at: https://nwcommons.nwciowa.edu/education_masters



Part of the [Special Education and Teaching Commons](#)

Adverse Childhood Experiences and the Effect on Student Behavior

Katie M. Herther

Northwestern College

A Literature Review Presented

In Partial Fulfillment of the Requirements

For the Degree of Master of Special Education

March 29, 2020

Dr. Ashley Nashleanas

Table of Contents

Abstract.....	3
Introduction.....	4
ACEs History	4
History: Brain Development	7
Trauma on Brain Development.....	9
School Chronic Absenteeism.....	11
School Retention and Dropout.....	12
Behavior Problems.....	13
Academic Development.....	14
Mental Health.....	14
Crime.....	15
Substance Abuse	16
School Interventions.....	17
Community Involvement.....	18
Recommendation for Future Research	20
Application	21
Conclusion.....	22
References	23

Abstract

The purpose of this literature review is to discuss the adverse childhood experiences (ACE) and the impact on a student's emotional, cognitive, and behavioral abilities. In this paper I will explore how brain development, as well as environmental factors, can all address the behavior of a student and the consequences of that behavior. This literary review features studies on ACEs and its relationship to brain development, chronic absenteeism, retention and dropout rates, behavioral problems, and academic achievement. In addition, studies about crime, school intervention, and community intervention help to further explain how ACEs impacts the behaviors of individuals. This paper finds that ACEs directly correlate with higher risks of exhibiting behaviors. Furthermore, this paper suggests appropriate interventions and guidance to help students who exhibit signs of ACEs and can still be successful in their environments.

Adverse Childhood Experiences and Effects on Student Behavior

Trauma in early childhood can have a lasting impact on the mental and physical health of an individual. The understanding of how these early experiences can impact a child can lead to understanding the behaviors of students in the classroom (Hunt, et al., 2017, Felitti, et al., 2019). According to Bethell et al. (2014), Adverse Childhood Experiences (ACE) are described as experiences that include violence; emotional, physical or sexual abuse; deprivation, neglect, family discord and divorce; parent substance abuse and mental health problems; parental death or incarceration; and social discrimination that a child can be exposed to in their primitive years. The understanding of ACEs will help administration and teachers assist students with behavior needs in the school setting.

There are different reasons why several federal agencies including: Substance Abuse and Mental Health; Center of Disease Control and Prevention; and Administration for Children and Families (ACF) are making understanding ACEs a priority (Bethell, et al., 2014, Bethell, Gombojov, Solloway & Wissow, 2016). Early trauma is associated with altering the functions and pathways of the brain that evidence shows can lead to psychological problems or early death (Thomason & Marusak, 2017, Felitti, et al., 2019). According to Bethell, et al., at least 48% of children have experienced one or more ACEs events in their childhood. Children who have experienced any of these traumas also are reporting to struggle with school engagement, being absent from school, and are at risk of repeating a grade. This data shows direct correlation with Adverse Childhood Experiences and its effect on students' behavior and academic performance.

ACEs History

The Adverse Childhood Experience Study (ACEs) describes all types of trauma including abuse, neglect, and other traumatic experiences in childhood (Felitti, et al., 1998, Bethel et al.,

2014). This study was used to determine if there is a relationship between childhood experiences and health risk and behaviors into adulthood. According to Felitti, prior to the ACEs, the only surveys assessing information about long-term effects of childhood abuse was minimal and only assessed one single type of abuse, either physical or sexual.

The ACEs study was initially conducted by the Kaiser Permanente's San Diego Health Appraisal Clinic, the nation's largest free-standing medical evaluation center, and the Center of Disease Control and Prevention between the years of 1995-1996 (Felitti, et al., 1998). The ten categories that were addressed in the survey pertaining to adverse childhood experiences included psychological, physical or sexual abuse, violence against mother, living with household member who are substance abuser, mentally ill, suicidal, or imprisoned (Felitti et al. 1998, Bethell et.al., 2014). The research was conducted through the use of a confidential questionnaire that was given to 13,494 Kaiser Health Plan members who completed a medical examination between August-November of 1995 and January-March 1996. Of the adult participants in the questionnaire, over 70.5% (9,508/13,494) responded to the survey. Initial findings indicated that more than 50% of participants reported to have at least one ACEs and about 25% reported to have two or more ACEs (Felitti et al., 1998, Navalta, Mcgee, & Underwood, 2018). With regard to the categories, the research showed that the most important exposure that was reported by the participants through the survey was substance abuse in the household (25.6%) and the least exposure was evidence of terminal behavior in the household (3.4%) (Felitti et al., 1998, Felitti, et al., 2019, Bethell, Gombojov, Solloway& Wissow 2016). The conclusion of the study showed a strong relationship between the number of children exposures and the number of health risks as adults due to the effect of the child's brain development and the negative adult behavior and health.

In the United States during 2012, an analysis from the National Survey of Children shared that over 48% (roughly 34,825,978 children) have experienced at least one of the traumas included in the ACE Study (Navalta, Mcgee & Underwood, 2018). According to Bethell, the finding suggested that children need to build resilience, defined as “staying calm and in control when faces with challenges” to help the negative impact of adverse childhood experiences. Addressing adverse childhood experiences is now among the priorities of several federal agencies including Substance Abuse and Mental Health Services Administrations (Bethell et. al, 2014). This study adds to previous reports of evaluated associations between experience, childhood chronic absentee, and school factors such as school engagement and grade repetition. Children with two or more ACEs are 2.67 times more likely to repeat a grade in school compared to students who exhibit no ACEs. This finding demonstrated that ACEs could have a role in certain childhood diseases, such as asthma, ADHD, and obesity as well as behavioral, physical, and emotional development.

Pynoos et al (2014) has continued to validate the findings of the ACE study that documented links between exposure to trauma in childhood and biological, psychological, social, and health development. The design of this experiment was to create a tool that can cover a broad range of ACEs, track if there is pattern (co-occurring, repetitive or sequential) of the trauma, and link the severity of distress by producing a graphic representation of a child’s trauma for clinical use (Pynoos, et al., 2014). In this research, Pynoos used Trauma History Program (THP) to detail each trauma or loss endured and try to find the baseline of the trauma to help develop the course of treatment. It also was used to determine whether the child was the victim or witness, the setting of the trauma, the perpetrator, and whether the injury or type of accident was reported to Child Protection Services. These studies showed that the data received from THP

shows correlation between adverse childhood experiences and PTSD and other emotional and behavioral issues that can be evident later on in the adult life (Navalta, Mcgee, & Underwood, 2018).

Adverse Childhood Experiences have been around forever but by being documented and treating are now gaining more momentum and having wider acceptance. New assessments are now being developed that will be able to screen for ACEs in real time rather than determining if the adult was affected by childhood trauma decades earlier. Only recently have medical professionals in primary care begun to examine childhood abuse and the relationship between adult risk and behavior. According to Felitti et al, (1998) high levels of exposure to adverse childhood experience would result in elevated anxiety, anger, and depression in children. Currently, the stress of childhood ACEs can be expressed as addiction, depression and suicide (Planey, 2017).

History: Brain Development

A growing number of studies has shown that neurological structure and function can change following any type of trauma (Thomason & Marusak, 2017). According to Carrion and Wong (2012) and Tottenham (2013), data through diffusion tensor imaging (DTI) and magnetic imaging (MRI) show the evidence of increase response in the hippocampus, amygdala and prefrontal cortex in young children that experience early trauma in their lives. Furthermore, Carrion and Wong stated that the hippocampus is a brain structure in the limbic system that helps with new learning and memory formation. However, if the hippocampus is damaged through a traumatic experience, making memories can be difficult to regulate and can be processed abnormally, resulting in the inability to recall memory. Carion and Wong also mentioned that if the functionality of the hippocampus is altered, then it can manifest to avoidance and numbing

symptoms, causing an inability for the affected individual to recall important aspects due to the trauma that was inflicted. According to Tottenham (2013) the amygdala, also located in the brain, is the “fight or flight response” and alerts the body to dangerous conditions or stress by releasing stress hormones called cortisol. In current studies, larger amygdala predicts higher ranges of anxiety, internalized behavior and also mood disorders. The amygdala also plays a key role in the significant of emotional stimulus and the connections with the hippocampus plays an important role in the formation of emotional memories (Tottenham, 2013). If these two functions of the brain are affected in early childhood, it has a lasting impact on the emotional capability of the individual. Another important anatomy of the brain is the prefrontal cortex (PFC), located in the frontal lobe, is vital for the cognitive processing and the ability to shift attention. When the PFC is damaged through trauma, individuals can have struggles with sustained attention or can be easily distracted (Carrion & Wong, 2012). Destruction in the amygdala, hippocampus and prefrontal cortex can cause destruction in emotional regulation that results in not being able to present appropriate emotional regulation skills (Navalta, Mcgee & Underwood, 2018).

Another area that is affected through early set trauma is the neurological pathways of the brain. The primary neural system that are impacted by trauma exposure are neural stress way, emotional processing and regulation neuro pathways (Thomason & Marusak, 2017). Neural systems are highly integrated, so if one pathway is altered, it can have a lasting impact on other pathways of the brain due to the intertwining of the systems. According to Thomason & Marusak (2017), during this time in brain development, the brain is also transitioning from short-term to long-term wiring of the brain throughout adolescents. Not only does the brain neuro pathways go to long-term wiring during this time, but the human brain can have different maturity rates depending on the age, region, or sex of the child. As shown by Thomason & Marusak, the

maturity rates can alter the timing of the tragic event, resulting in different experiences depending on the sex and age of the child.

Trauma on Brain Development

Through recent research and studies, Paccheco (2016) and Tottenham (2013), it is now accepted today that children have capacities to perceive and remember traumatic events as early as a few months old. In small children, the tactile and auditory senses are similar to those of an adult, suggesting that children can experience stressful events at an early age. The initiation of an infant's visual development is around three months of age. An infant can remember and reenact traumatic events as early as seven months of age. Then by eighteen months of age, children are beginning to develop autobiographical memory. These developmental time frames reiterate how young children have the perceptive ability and memory to be influenced by traumatic events which can have lasting effects on their cognitive, emotional, and behavioral development (Paccheco, 2016).

Children not only begin to develop their tactile, auditory and memory at this time, but during infancy and childhood, neural circuits are being developed in the brain. These neural circuits can be particularly sensitive to environmental pressures during this time and considered a sensitive period (Tottenham, 2013). Sensitive periods are described as times that the outside environmental factors have a major influence on the development of the brain. Tottenham argued that this time is critical because if trauma is experienced, there can be irreversible effects on brain function and future learning of the child.

In 2009, Tottenham and Sheridan have noted that the nurture of a mother is important to brain function. The study was conducted with animals who were deprived of motherly contact for a period of time. In the study, the animals appear to be more anxious and have different

functions in their amygdalas, hippocampi, and prefrontal cortices when they were without the nurture and safety of their mothers (Thomason & Marusak, 2017, Tottenham, 2013). Tottenham (2013) also argued the same will happen with children that were institutionalized by showing the reduction of function in the structure of the brain with the lack of the presence of a caregiver. Reavis et al. (2013) hypothesized that adverse experiences and trauma afflicted during childhood can cause a decrease in the ability to form any secure attachment to other people. These studies stress that not only do children need a stable home life, but also that they need a quality caregiver during their early years to help with the development of the brain. It has been shown that children who did not have the quality attachment to a care giver during their early years of life have exhibited emotional difficulties later on in life (Tottenham, 2013). This find is very important today due to the data collected from the U.S. Department of States, sharing 20,000 infants and children are adopted from abroad each year. Due to the number of adoptions from abroad, the growing concern and needed discussion of long-term consequences for adversity in early childhood with orphanages in different countries is very important (Tottenham, et al., 2010). By understanding the brain and emotional needs of children in their early years, protocols can be put into place to help build quality attachment to their caregivers in the child's early years of life.

Recent research has shown that ACEs does have an impact on brain development and the lasting impact of the wellbeing of the child. The study from Read, Foss, Moskowitz and Perry (2014) describes a trauma genic neurodevelopment model that proposes that brain function changes following trauma during childhood (as cited in Pacheco, 2016, p. 2). Teacher and Samson (2016) conducted studies to determine that there is a positive association between ACEs and brain structure functionality and connectivity. These studies have shown that adverse

childhood experiences have a dramatic effect on the brain and can have lasting implications (both positive and negative).

School Chronic Absenteeism

In the school setting, chronic absenteeism can be an indicator of adverse childhood experiences portrayed in school-aged children. Studies have shown that nearly 14% of school age children are chronically absent from school (Iachini, Petiwala, & Dehart, 2016). Research from the national wide data from the Early Childhood Longitudinal study (2008) (as cited in Sugrue, Zuel, & Laliberte, 2016) found that 11% of children in kindergarten and 9% of first graders are chronically absent. These absences in early grades are directly associated with academic achievement and chronic absences in later grades which affects high school dropout rate (Sugrue, Zuel, & Laliberte, 2016). Students who have been chronically absent often time are in need of more academic support due to the missed educational time. These students also can exhibit behavioral problems due to their lack of understanding academics from the missed time in the classroom.

A study was conducted by Stempel et al (2017) to determine if there was a correlation between chronic school absences (greater than 15 days) and adverse childhood experiences in school-aged students. The data explained that student who had at least one or more ACEs are more likely to be absent from school than students who portray no childhood trauma (Stempel et al., 2017). The ACEs that were the most common for school-aged students to experience that resulted in missed school included being a witness of neighbor violence, living with a family member who exhibits substance abuse or having multiple adverse childhood experiences. This study showed that chronic absenteeism can be directly related to students who have been exposed to one or more adverse childhood experiences.

School Retention and Dropout

Retention and high school dropout is another area that is directly affected by the adverse childhood experiences or trauma that can be inflicted at a young age. Children with two or more adverse childhood experiences are 2.67 times more likely to repeat a grade compared to other peers of the same age. Iachini et al (2016) discusses that other disengaged behaviors can include grade changes, suspension issues, and skipping school. Children in the United States who are exposed to adverse childhood experiences are significantly more likely to repeat a grade due to their lack of resilience or the ability to stay calm and in control when faced with challenges (Bethell et al., 2016). Retention not only affects the student academically, but it can affect the student socially by being behind their peers.

Over one million children drop out of high school each year in the United States. Not graduating from high school has the consequences of unemployment, entry to juvenile and criminal justice systems, and poor health outcomes (Iachini, Petiwala, & Dehart, 2016). Iachini et al., along with Porche et al (2011) examined national data and found that individuals with traumatic childhood experiences were more likely to drop out of school compared to individuals who have not experienced any adverse trauma. As dropout rates continue, school social workers and schools need to rely on implementing dropout preventative programs by focusing on students' trauma through assistance with early interventions. This assistance is intended to support those students who are the most at-risk for dropping out. Assessing students for ACEs allows for more targeted services and supports to meet individual needs to help schools and social workers be more prepared associated with behavioral concerns. Bethell et al (2014) argues that another way that children can combat the effects of childhood traumas is building resilience. Those students who learn and show aspects of resilience are more likely to be engaged in school

and nearly half as likely to repeat a grade in school compared to those who do not exhibit this behavior.

Behavior Problems

Levels of exposure to adverse childhood experiences have been known to produce anxiety, anger and depression in children. Exposure to ACEs in early childhood not only causes externalizing (aggression) and internalizing (depression, anxiety) behaviors, but also exhibits likely diagnosis of attention disorders. Reports show that children ages 2-17 with attention deficient hyperactivity disorder (ADHD) have been exposed to ACEs (Bethell et al., 2016). These problem behaviors have a higher likelihood of emerging after exposure to adverse childhood experiences (Hunt et al., 2017). Hunt et al. reports that other studies such as Jimenez et al. (2016) and McKelvey et al. (2016) support that children as young as five, have found substantial increase in attention and behavior problems.

These behavioral concerns can lead into adulthood and have lasting impacts. Children with problems with behaviors have increased risk of developing clinical level mental illness and physical health problems in life (Hunt et al., 2017). Hunt continues to share that adults are more vulnerable to depression if they experienced anxiety and depression as a child and are more likely to develop an anxiety disorder. The study that Hunt conducted found that boys were more likely to demonstrate externalizing behaviors while girls were more likely to demonstrate clinical levels of internalizing behaviors. These different behaviors between boys and girls can be due to the brain development and the different maturity rate of the neuro pathways between the different sex and age of the child (Thomason & Marusak, 2017). Although different sexes showed different types of behavior, the correlation between those children that experienced

ACEs had a higher risk for behavior outcomes than those children that did not experience any of the trauma.

Academic Development

Research has shown that chronic absenteeism, retention, dropout rate, and behavior problems are directly related to the academic development of students who have experienced ACEs. In studies examining the effect of ACEs among pediatric samples, students who are exposed to four or more ACEs are thirty-three times more likely to report learning and behavioral problems compared to children without exposure (Hunt. et al., 2017).

Early trauma experiences can interfere with academic ability and school success through the impact of neurological systems and the impact of stress. Trauma in the brain can impair the ability for the child to learn. The well-known psychologist Jean Piaget (1954) describes the process of cognitive development that is shaped by the environment of the child through adaptation and organization (Tottenham, 2013). If children and youth have experienced trauma, they have secreted higher levels of the glucocorticoid cortisol. This receptor is used when the body is under a stressful situation and can lead to damage in the hippocampus and prefrontal cortex (PFC) due to where these receptors are located in the brain. These two functions of the brain are involved in memory processing and executive function, which is a critical function in learning (Carrion & Wong, 2012). It can be implied that children who have one or more adverse child experiences could have trouble with learning due to the stress receptors and trauma-filled environments.

Mental Health

The Center of Disease Control (CDC) recognizes that maltreatment of a child is the leading preventative cause that can inflict mental health issues including posttraumatic stress

disorder (PTSD), alcoholism, depression and anxiety (Thomason & Marusak, 2017, Felitti, et.al, 1988). Symptoms of mental health illness can come immediately after a trauma, but in some cases symptoms like post-traumatic stress disorder, anxiety disorder, behavior disorder, and substance abuse will not show until later on in life during adulthood (Paccheco, 2016, Felitti, et.al, 1988). ACEs show that there is dysfunction in the hippocampus, amygdala, medial prefrontal cortex and the limbic structures, causing different emotional and mental disorders following abuse on an individual (Thomason & Marusak, 2017). Putun, Haris and Puntun (2013) have reported that the relationship between adverse childhood experiences and mental health problems, including mood swings and anxiety, can result in substance abuse and impulse control (Navalta, Mcgee & Underwood, 2018).

Crime

In 2016, 10% of all violent crimes that were reported to law enforcement were committed by juveniles between the ages of 15-18 years (Freeze, 2019). According to Freeze, the National Task Force for Child's Exposure to Violence found that 90% of juvenile offenders in the United States have had some sort of traumatic event in childhood and meet the criteria for post-traumatic stress disorder due to the trauma experienced in their childhood. Youth and adolescents who live in certain locations of high crime, including low income and inner-city neighborhoods, are more likely to have witnessed or participated in murders, homicides, rapes, assaults, and other violent activity. By being familiar with violence and it being perceived as the normal way of life, many adolescents are turning to gang activity. The significance of ACEs and understanding the impact will help children to feel safer in their own schools and neighborhoods rather than opting to rely on crime or turn to gangs or criminal activity.

The two most common ACEs that are relevant for aggression and violence are abuse (physical and sexual) and household dysfunction (family alcohol, drug abuse, or witnessing

physical abuse of a family member) (Reavis et al., 2013). Furthermore, Reavis et al. found that males are forty five times more likely to have engaged in dating violence (defined by threats, or physical or sexual abuse of partner) if they have been sexually abused by a family member and are twenty six times more likely if they were abused by a nonfamily member. These results have shown that sexual offenders were more than three times likely to have had history of sexual abuse in their childhood compared to other nonsexual but criminal offenders. Due to these individuals having difficulty to form secure relationship, they either will avoid intimacy or tend to “bleed out” in their relationships in the form of violence.

ACEs not only increase the chances of involvement in the juvenile court system, but also increase the risk of re-offenses. Baglivio & Epps, (2015) shared that these findings support that individuals who are in the juvenile system have three to four adverse childhood experience and the increased number of ACEs have a direct correlation to increase risk of reoffenders. The finding supports the policy that screening and addressing ACEs as early as possible is the best way to prevent reoffending and other criminal activities.

One approach is to focus on learning how adverse childhood experiences will increase the likelihood of a child to engage in violent crimes (Freeze, 2019). Law enforcement and judicial awareness of ACEs will increase the chances of addressing the root cause of the problematic behavior. These behaviors can be addressed with social and behavioral health services instead of periods of detention or incarceration for the offender.

Substance Abuse

According to Freeze (2019), ACEs are strongly related to the development of wide range health problems through direct association with substance misuse. The person exposed to this trauma may benefit from using drugs such as nicotine to regulate their moods. The behaviors of

smoking, alcohol or drug abuse are used because of immediate pharmacological and psychological benefits. They are coping devices in the face of stress, abuse, domestic violence and other forms of family and household dysfunction (Felitti, et. al, 1998). A child's exposure to multiple numbers of categories of adverse childhood experiences increase the likelihood of the individual smoking by age of 14, being a chronic smoker as an adult and finally the presence of smoke-related health problems later on in life. The higher amount of exposure the child has to adverse childhood experience, the more likely the person will suffer from mental instabilities that can lead to coping mechanisms of smoking, alcohol and drug use.

School Interventions

Traumatic experiences early in life can cause later cognitive, behavioral, and emotional problems (Thomason & Marusak, 2017, Bethell, et. al., 2014). Young children exposed to Adverse Childhood Experiences are at a greater risk for learning and behavioral problems and have poorer school performance with more school absences than a child who hasn't experienced any trauma (Thomason & Marusak, 2017). To address these concerns, it is essential for schools to develop a positive environment to combat these issues of behavioral and emotional concerns. Pacheco (2016) shares that preschool programs like Head Start can play a vital role in early ACEs intervention by providing an ideal setting to help identify children exposed to ACEs and provide early on-site treatment.

In today's schools, central themes in education include preventing trauma, identifying trauma and teaching students who have been adversely affected by trauma (Woodsum, 2019). The focus of schools is to provide a safe, supportive and survivable environment for students. Many schools have had different trainings that include gun violence, bullying, and suicide prevention to help with making schools a safer place. Methods including mindfulness training,

application of neurological repair methods, and high-risk interventions have been implemented in numerous schools throughout the country to address ACEs concerns in students (Bethell, et. al., 2014).

Community Involvement

Young children and families are often connected with community services such as school early education and pediatricians which offer effective avenues to address ACEs. Bethell et al. (2014) proposes that the first act is to integrate ACEs screening in pediatric primary care. These services can raise awareness of the effects of trauma while providing supports for the family and child (Pacheco, 2016).

The Affordable Care Act has focused the health care system on the “whole person” and “whole population” health and the well-being of the individual. This new focus is paramount in the development in childhood and identifying childhood trauma and stress associated with adverse childhood experiences (Bethell, et. al., 2014). By broadening community work, the ACEs framework can work to build healthy and resilient communities.

Prevention and early childhood programs including age appropriate assessments, dyadic therapy, trauma-informed care, and play therapy are services that can help support families and care givers. Center of Disease Control (CDC) have several clinical approaches that serve to intervene to lessen harm and prevent further abuse, neglect, and associated risks. Another intervention is behavioral training programs which are intended to reduce the recurrence of child abuse and neglect while providing parents with healthy and safe environments (Paccheco, 2016). Chaffin et al., 2004 conducted a study that found that “parent-child interaction theory” can help reduce physical abuse by providing behavioral training to parents. Institutes for Safe Families mission is to prevent family violence and child abuse and to strengthen families to create

nurturing healthy experiences that promote childhood's positive development (Pachter, Lieberman, Bloom, & Fein, 2017). An important step in preventing childhood trauma are professional training and implementing trauma-informed curriculum (childhood adversity, trauma healing, and promoting resilience) to help medical, social services, community health, and child and family services respond to ACEs (Pachter, Lieberman, Bloom, & Fein, 2017).

Home visitation programs and interventions provide support for family services that address the health, social service, and educational needs of the family and children (Pacheco, 2016). Home visit programs are also important because not only can they be specific in addressing the concern, but they can also help build relationships and trust with the family. Building relationship with parents in a nonthreatening environment is essential to obtain accurate and complete information on adverse childhood experience of the child. This can be difficult due to the fact that honest answers may lead to the uncovering of illegal behaviors. In recent years, new developments have allowed screening for ACEs in real time rather than waiting until the individual is an adult to address the trauma (Playney, 2017). This approach of home visits is consistent with the recommendations of the U.S. Advisory Board on Child Abuse and Neglect, which focuses on programs that help new parents be successful in raising their children (Felitti, et al., 1998).

Some of the most well-established interventions include internal cognitive behavioral therapy (CBT), individual CBT with parent involvement with trauma focused and finally group CBT with Cognitive Behavioral Intervention for Trauma in Schools (CBITS) (Navalta, Mcgee & Underwood 2018). Even though there is no cure for ACEs, studies have shown that using mindfulness-based mind approaches (MBMB) can help promote healthy regulation of stress, resilience, healing from trauma, emotional trauma, and behavioral issues (Bethell et al., 2016).

Although there are many interventions to help with adverse childhood experiences, there still needs to be more research and work done to make sure this trauma doesn't continue to happen to children.

Recommendations for Future Research

The literature review provides important information on the impact of ACEs on a child's future and later on in adult life. Since 1998 with the initial Adverse Childhood Experience by Feltz, the categories of trauma have been used to help other studies determine if early childhood trauma has an effect on the development of the child. Although there have been studies surrounding the first ACE studies, future research is needed to determine the effect ACEs has on adolescents and behavioral implications.

The first recommendation is further study of the behavioral outcome during the middle childhood years. The current studies by Panheco (2016), Thomason & Marusak, (2017) and Felitti, (et al., 2019) either focus on early childhood years or adulthood. Researchers have focused on how trauma during early childhood affects mental and physical health later in life but not in adolescent years. There is limited data to show that trauma affects school-related behaviors in the higher grades, including suspensions and high school dropout rates, due to not having sufficient data in this area. Without the data, it is difficult to provide interventions that can help alleviate the problems in the school setting (Iachini, 2016).

The second recommendation is having another way to get the information rather than self-reporting or the ACE questionnaire. Currently, data can be skewed due to the fact that a child or guardian is reporting the violence and might be withholding information especially if it has criminal implications like child neglect, physical or emotional abuse. Planey (2017) argues that parents must give sensitive information and trust and a non-threatening environment is

essential in obtaining this information. Furthermore, Felitti et al. (1998) shares that physicians may find sexual violence and other discussions on sensitive issues too personal for doctor-patient relationships. Because of the lack of information from self-reporting or guardians, not all of the individuals who have been impacted by adverse childhood experiences are being reported.

The third recommendation for future research is the framework of building interventions and strategies associated with Adverse Childhood Experiences. In the school system, ACEs exposure can be addressed through school and community interventions to help build resilience. Many resources would argue that programs and interventions were needed but failed to mention the specifics of how each would be implemented. Pachter (2017) discusses that although development of curriculum is a good first step, more needs to be done to assure that an appropriate universal approach can be used in the medical field, social services, community health and family sectors that are all involved in a child's life and development.

Application

According to The National Child Abuse and Neglect System (as cited in Bethell, 2014, p.2), 12.5% of all United States children in 2014 have experienced a documented episode of child abuse or neglected by the age of eighteen. The research shows that adverse childhood experiences play an important role in the development of a child's emotional and cognitive behaviors. As a special education classroom teacher, I work with students who have experienced traumatic events in their childhood and exhibit social, behavioral and academic delays. In my caseload, I have students that qualify under Emotional Disturbance due to having childhoods that include different types of abuse and other traumatic events. Due to the research, I have learned to teach my students resilience and the ability to cope with emotional needs they may encounter. I also have worked with the special education director to try to get curriculum to help with social

skills and behavioral concerns. I also am working closely with the community, family and school counselors to not only have school interventions but give student support outside of school that can help with the development concerns they may exhibit.

As a high school teacher, I am very interested in how adverse childhood experience can affect students at the high school level. I teach ninth and tenth grade students and being able to identify the factors that increase the risk of suspensions, chronic absence or dropout rates of students in the high school would be very beneficial. Also understanding the implication of ACEs and how it can directly affect students helps case managers, administration and teachers to identify and provide appropriate interventions and support for students who have experienced these traumas.

Conclusion

The cumulative review of literature identified many factors that contribute to ACEs and how ACEs can impact a student's emotional, cognitive and behavioral abilities. Students who have been exposed to adverse childhood experiences have worse health outcomes and more school problems compared to others who did not have a traumatic experience (Bethell, et. al., 2014). In the school setting, by being able to identify the factors that can lead to drop-out rate, interventions can be put into place to help students from resorting to crime or substance abuse later on in life. Through interventions from the school and community, students who have experienced adverse childhood trauma can get the help and support to be more successful and productive members of society.

References

- Baglivio, M. T., & Epps, N. (2015). The interrelatedness of adverse childhood experiences among high-risk juvenile offenders. *Youth Violence and Juvenile Justice*, *14*(3), 179–198. doi: 10.1177/1541204014566286
- Bethell, C., Gombojav, N., Solloway, M., & Wissow, L. S. (2016, April 6). Adverse childhood experiences, resilience and mindfulness-based approaches: Common denominator issues for children with emotional, mental, or behavioral problems. Retrieved from <https://jhu.pure.elsevier.com/en/publications/adverse-childhood-experiences-resilience-and-mindfulness-based-ap->
- Bethell, C.D., Hafton, Shonkoff, Bellis, D., Ehlert, Dube, ...Bryck RL. (2014, December 1). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. Retrieved from <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2014.0914>
- Carrion, V.G., & Wong, S.S. (2012). Can traumatic stress alter the brain? Understanding the implications of early trauma on brain development and learning. *Journal of Adolescents Health*, *51*(2) doi: 10.1016/j.jadohealth.2012.04.010
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *56*(6), 774–786. doi: 10.1016/j.amepre.2019.04.001

- Freeze, C. (2019, April 9). Adverse childhood experiences and crime. *FBI Law Enforcement Bulletin*. Retrieved from <https://leb.fbi.gov/articles/featured-articles/adverse-childhood-experiences-and-crime>
- Hunt, T. K., Slack, K. S., & Berger, L. M. (2017). Adverse childhood experiences and behavioral problems in middle childhood. *Child Abuse & Neglect*, *67*, 391-402. doi: 10.1016/j.chiabu.2016.11.005
- Iachini, A. L., Petiwala, A. F., & Dehart, D. D. (2016). Examining adverse childhood experiences among students repeating the ninth grade: Implications for school dropout prevention. *Children & Schools*, *38*(4), 218–227. doi: 10.1093/cs/cdw029
- Navalta, C. P., Mcgee, L., & Underwood, J. (2018). Adverse childhood experiences, brain development, and mental health: A call for neurocounseling. *Journal of Mental Health Counseling*, *40*(3), 266–278. doi: 10.17744/mehc.40.3.07
- Thomason, M. E., & Marusak, H.A. (2017, February 7). Toward understanding the impact of trauma on the early development of the brain. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articales/PMC4985495/>
- Tottenham, N. (2013). The importance of early experiences for neuro-affective development. *The Neurobiology of Childhood Current Topics in Behavioral Neurosciences*, 109-129. doi: 10.1007/978-3-662-45758-0_254
- Tottenham, N., Hare, T.A., Quinn, B.T., Mccarry, T.W., Nurse, M., Gihooly, T., ... Casey, B. (2010). Prolonged institutional rearing is associated with atypical large amygdala volume and difficulties in emotional regulation. *Developmental Science*, *13*(1), 46-61. doi:10.1111/j.1467-7687.2009.00852.x

Pacheco, Craig, B.A. Literary Review: Preventing Adverse Childhood Adverse Childhood Experiences (ACES) Institute for Social Research, UNM

Pachter, L. M., Lieberman, L., Bloom, S. L., & Fein, J. A. (2017). Developing a community-wide initiative to address childhood adversity and toxic stress: A case study of the Philadelphia ACE Task Force. *Academic Pediatrics, 17*(7). doi: 10.1016/j.acap.2017.04.012

Planey, B. (2017). ACEs and State Maternal Child Health programs. *Academic Pediatrics, 17*(7). doi: 10.1016/j.acap.2016.11.003

Pynoos, R. S., Steinberg, A. M., Layne, C. M., Liang, L.-J., Vivrette, R. L., Briggs, E. C., ... Fairbank, J. A. (2014). Modeling constellations of trauma exposure in the National Child Traumatic Stress Network Core Data Set. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(Suppl 1). doi: 10.1037/a0037767

Reavis, J. A., Looman, J., Franco, K. A., & Rojas, B. (2013). Adverse childhood experiences and adult criminality: How long must we live before we possess our own lives? *The Permanente journal, 17*(2), 44–48. <https://doi.org/10.7812/TPP/12-072>

Stempel, H., Cox- Martin, M., Bronsert, M., Dickinson, L. M., & Allision, M. A. (2017). Chronic school absenteeism and the role of adverse childhood experiences. *Academic Pediatrics, 17*(8), 837-843. doi: 10.1016/j.acap.2017.09.013

Surgrue, E.P., Zuel, T., & Laliberte, T. (2016). The ecological context of chronic school absenteeism in the elementary grades: Table 1: *Children & Schools, 38*(3), 137-145. doi: 10.1093/cs/cdw020

Woodsum, D. (2019, December 6). Maine Compass: In today's schools, educators' focus turns to keeping students alive. Retrieved from <https://www.centralmain.com/2019/12/06/main-compass-in-todays-classroom-educators-focus-turns-to-keep-students-alive/>