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Adverse Childhood Experiences: The Effect on Students' Social and Academic Success

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Adverse Childhood Experiences: The Effect on Students' Social and Academic Success

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A Literature Review Presented

in Partial Fulfillment of the Requirements

For the Degree of Master of Education

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Abstract

Adverse childhood experiences are defined as potentially traumatic events that occur before the age of 17 and include experiences such as violence or abuse in the home, substance abuse or mental health problems of a direct caretaker, neglect, incarceration of a parent, divorce, and other events that can negatively affect a child's sense of safety and stability in their home. These adverse experiences are commonly referred to as ACEs, and research has shown a direct link between a child's ACEs score and chronic health problems, mental illness, and substance abuse problems in adulthood. Research has also shown that these experiences can also negatively impact a child's education and academic success. This literature review contains information on the impact adverse childhood experiences can have on a child's physical health and their social and academic success. This literature review and research of studies reveals that while adverse childhood experiences can have a negative impact on many areas of a child's life, there are protective factors that can help decrease the affects these events may have on a child's well-being. This literature review also outlines how schools, communities, and government officials can work together to help break the cycle of ACEs within families by providing the supports needed to give children the best chance of social and academic success.

Keywords: adverse childhood experiences, toxic stress, socioemotional health, trauma, protective factors

Adverse Childhood Experiences: The Effect on Students' Social and Academic Success

Youth mental health has been a focus of many studies, as educators and researchers alike are beginning to realize the strong the connection between a child's mental health and their social and academic success in school. While trying to learn about what is behind the recent spike in youth mental health issues, researchers have discovered a strong link between Adverse Childhood Experiences, or ACEs, and a child's mental health, well-being, and success in school (Zyromski et al., 2020). It is important for educators to learn how to address the specific needs of students who have experienced these ACEs and teach them in a way that helps them not only overcome these experiences, but to thrive in all parts of their life, including their education (Zyrmoski et al., 2020)

Adverse childhood experiences (ACEs) are traumatic events occurring in a child's life before age 18. Adverse childhood experiences are categorized to include different types of abuse and neglect, as well as parental mental illness, substance use, divorce, incarceration, and domestic violence (Center for Disease Control and Prevention, 2016). Children who have experienced these traumatic situations are at high risk for what is known as toxic stress. Toxic stress can have a negative impact on a child's academic success. In childhood, children who have experienced these types of adversities are more likely to have difficulties in school and have emotional, social, and behavioral challenges, as they struggle with paying attention and self-regulating their emotions (Metzler, 2017).

To determine a child's ACEs score, a ten-question survey is given with questions regarding childhood experiences and family home environment. A CDC-Kaiser ACE study found that more than half of all adults have experienced at least one ACE, while nearly 1 out of 6

adults have experienced four or more ACEs. The negative effects of ACEs often continue into adulthood, as research shows that exposure to adverse childhood experiences have been found to increase a person's risk of injury, sexually transmitted infections, health problems, teen pregnancy, chronic disease, and suicide. Exposure to ACEs can also lead to an unstable work history, toxic stress, mental illness, and trouble forming healthy and stable relationships with others (Centers for Disease Control and Prevention, 2016).

Likewise, ACEs can have a negative impact on academic success, as multiple studies have found a correlation between students' ACE scores and poor academic performance. In fact, an ACE score of 3 or higher has been found to make it significantly more likely for a child to struggle in school (Harris, 2017). This literature review will share the definitions of adverse childhood experiences, the effects these experiences have on the social and academic success of students, along with the physical health of students, and research-based strategies that can help offset the effects of ACEs.

Review of the Literature

The Adverse Childhood Experiences (ACEs) Scale and Screening

Adverse Childhood Experiences, commonly referred to as ACEs, are traumatic experiences that if exposed to before the age of 18, can greatly impact the socioemotional health of children and adolescents, and have negative effects into adulthood (Clarkson, 2014). In 1998, CDC-Kaiser Permanente published a groundbreaking study that investigated the impact of ACEs on the physical and mental health of over 17,000 adults. In this study, CDC- Permanente developed an ACE scale to identify negative experiences in childhood (Petruccelli et al., 2019). Ten negative experiences were identified and divided into the following three categories: abuse, neglect, and household dysfunction. Physical abuse, emotional abuse, and sexual abuse are listed under the abuse category, physical neglect and emotional neglect are listed under the neglect category, and mental illness of a family member, physical violence towards the mother, substance abuse, incarceration of a relative, and divorce are listed under the household dysfunction category (Thompson et al., 2020). These ten experiences are what is still referred to as the ACEs list today.

During the original CDC-Kaiser study, adults were given a survey asking about the 10 different types of ACEs and if they had experienced them prior to the age of 18. Their findings showed a direct correlation between ACEs and future physical and mental health complications later in life (Petruccelli et al., 2019). While many studies have been conducted within the field of psychology, the most widely cited and replicated approach to adverse childhood experiences and the socioemotional impact they have on adult mental and physical health is based on the ACE studies from the CDC-Kaiser research (Briggs et al., 2021).

Screening for ACEs is very important in helping a child or adult receive the proper care they need. ACE screening is best understood as a risk assessment tool. Learning about one's risk of developing physical or mental complications from trauma may improve the management of common existing physical and mental diseases (Gordon, 2014). ACEs screening can also help protective personnel such as school counselors, teachers, and physicians become aware of possible abuse or trauma that is taking place in the home, so they can then work together towards a public health or safety intervention to help ensure the safety of the child (Gordon, 2014).

Another purpose of screening for ACEs is to identify if a child or adult may be suffering from toxic stress due to trauma from ACEs. A complete ACE screening involves clinical assessment, including for protective factors and ACE-associated health conditions, and together these indicators inform assessment of toxic stress risk. (Gordon et al., 2020). Toxic stress is extreme, prolonged stress defined as the dysregulation between the body's biological stress response and their metabolic, immune, and neurological response (Gordon, et al., 2020). The single greatest factor in developing toxic stress is adversity, showing a strong correlation between ACEs and the development of toxic stress. When screening for ACEs, a score of four or more ACEs is used to classify individuals as at significantly higher risk for a variety of medical and mental health outcomes, including toxic stress (Briggs et al., 2021).

Research has shown that the prevalence of ACEs is quite high. In 2014, Sachs et al., published findings from the largest population-based study of the prevalence of ACEs, showing that more than half of children experience 1 or more ACE between birth and the age of 17, and that 1 in 10 have experienced three or more. (Mason, 2014). The most common ACEs reported were divorce, parental alcohol abuse, witnessing or experiencing violence, and living with someone with a mental illness. (Mason, 2014). However, recent studies have shown a possible

need for expanding the original list of ACEs defined by the CDC-Kaiser study, as research shows other adverse childhood experiences have the possibility to have a negative impact on a child's physical and emotional health. The Well-Being and Experiences Study, which involved a baseline survey of children ages 14-17 years, suggests expanding the original list of ACEs to include spanking, poverty, parental interactions with police, peer victimization, parental gambling, foster care placement, and neighborhood safety (Afifi et al., 2020). While the original ACEs list still the most common list in use today, research continues for the need for expanding the criteria of adverse childhood experiences.

Physical Effects of Adverse Childhood Experiences

Adverse childhood experiences can result in many different physical complications for individuals, many of which can lead well into adulthood. A cross-sectional study that used a nationally representative sample of children and young adolescents who were investigated by child welfare (National Survey of Child and Adolescent Well-Being II), results showed that children who had an ACEs score of 5 or more were more than twice as likely to have a health complaint, over three times more likely for the caregiver to report the child having physical complaints, and nearly four times as likely to have an illness requiring care by a physician (Kerker et al., 2018). For each additional ACE, there has been shown to be a significant increase in the likelihood of behavior problems, chronic medical conditions, and low socialization on standard measures of behavior and development (Sciaraffa et al., 2018). Additionally, there has also been found to be a strong correlation between children who experience 5 or more adversities in the second six years of their life and an increased in health complaints and illnesses that require a doctor (Flaherty, 2009).

Findings from the Helsinki Birth Cohort Studies and the Hertfordshire studies show evidence that trauma or adverse childhood experiences in infancy and early childhood can induce HPA and epigenetic changes in an individual that can increase the likelihood of adult disease. The physical ramifications of exposure to ACEs begin early, as the research from the study showed that infants with low birthweights due inadequate prenatal care and low infant weight due to malnutrition between the ages of 1 and 2 has an association with an increase in heart disease and Type 2 diabetes in adulthood (Gentner & Leppert, 2019). Further research in this study showed an association with specific adverse experiences including physical, sexual, and emotional abuse, neglect, violence in the home, parent mental illness, natural disasters, death, war, divorce, serious illness within the family and bullying with developing disease later in life. (Gentner & Leppert, 2019). The toxic stress from these experiences showed a significant association with other adult diseases such as ischemic heart disease, diabetes, stroke, irritable bowel syndrome, obesity and depression as well. A 2016 National Survey of Children's Health also found an association between ACEs and a high percentage of children suffering from asthma (Thompson, et al., 2020). It has been found that the risk of these adult diseases increases with each additional adverse childhood experience (Genter & Leppert, 2019).

Data collected from the Child Health and Illness Profile – Child Edition, which examined the well-being of children aged 6-11 by examining aspects of health that can be influenced by health systems, school systems, and general health promotion (Thompson, 2020), shows a correlation between a child's poor physical health and their ACEs score. Research concludes that this association is due to many families in crisis do not have access to adequate health care or fail to provide adequate healthcare to their children (Thompson, 2020). For this

reason, health professionals and policy makers must consider how children who have been exposed to adverse childhood experiences could benefit from targeted intervention programs.

Emotional and Behavioral Effects of Adverse Childhood Experiences

Adverse childhood experiences can cause emotional distress and turmoil in children and adolescents, leading to detrimental emotional effects. According to data from a Systemic Clinical Outcome and Routine Evaluation review of research collected from 2006-2018, there was a consistently strong association between reports of ACEs in childhood and a multitude of mental health problems such as anxiety, depression, psychotic disorders, substance abuse, and personality disorders (Scully et al., 2020). In this study there was also found to be a high correlation between ACEs and negative mental health outcomes, including the internalizing and externalizing of mental health problems that have the possibility of leading to many problem behaviors, including youth suicide (Scully et al., 2020).

Likewise, data collected from an Adult Attachment Interview conducted in Gothensburg, Sweden shows a high correlation between adults who experienced ACEs as a child or adolescent and clinical depression in adulthood (Ivarsson et al., 2016). Their findings conclude that the participants' depression stemmed from them having little evidence of experiencing secure and safe parental behavior in their childhood, therefore leading to higher rates of anxiety and depression as they aged (Ivarsson et al., 2016). A study using the Dispositional Hope Scale that was given to children and adult caregivers at a national nonprofit child advocacy center shows there is a lack of hope associated with individuals who have experienced trauma (Baxter et al., 2017). This study suggests that those with higher ACEs score are less likely to dedicate mental energy to pursuing their life goals. It also shows that these individuals are less likely to take

corrective action in their lives because they have a decreased estimation of their own abilities or the resources available to them because they have a decreased level of hope (Baxter et al., 2017).

The negative emotional effects of adverse childhood experiences can lead to risky behaviors that can be detrimental as the child enters adolescence and adulthood. According to data from the National Study of Adolescent to Adult Mental Health conducted at the University of North Carolina, adolescents who have been exposed to adverse childhood experiences are much more likely to be engaging in higher rates of substance use, violence, and other delinquent behavior relative to their unexposed and less-exposed peers (Brumley et al., 2017). Additionally, high-risk sexual behaviors, such as having intercourse by the age of 15, having sex with more partners, contracting sexually transmitted diseases, becoming pregnant as a teenager, and experiencing an unintended pregnancy, have been strongly associated with ACEs (Zyromski et al., 2020). Data from the 2011 Behavioral Risk Factor Surveillance System found that the presence of four or more ACEs was associated with higher odds for smoking, heavy drinking, and binge drinking (Sharma, 2021). The consequences of risky behavior such as this can be extremely detrimental, as substance use is associated with outcomes such as violence, unsafe sexual behavior, and the inability to secure and keep employment. (Sharma, 2021). These risky behaviors can begin as early as late childhood and early adolescence, as an Egyptian qualitative study found ACEs such as poverty, child abuse, and family substance use to be linked with substance use among youth as young as 12-18 years (Sharma, 2021).

Academic Effects of Adverse Childhood Experiences

The physical and emotional effects of adverse childhood experiences can have a negative impact on a child's academic success. Research from a 2012 National Scientific Council on the Developing Child study shows that children who experience ACEs early in life are at a higher

risk of negative educational outcomes (Hinojosa, Bright & Nguyen, 2019). The stress related to adverse childhood experiences often manifests at school, causing students to suffer from symptoms such as difficulty concentration, trouble with learning tasks, and memory problems (Hinojosa, Bright & Nguyen, 2019). These experiences can set children apart and place them on a different educational path compared to peers who have not experienced adverse events.

Data collected from a Longitudinal Study of Child Abuse and Neglect from protective services shows a direct association between adverse childhood experiences and high school dropout rates (Morrow & Villodas, 2018). This study shows that as the number of ACES increase, the level of educational attainment decreases. The results of this study also show a correlation between a high ACES score and school withdrawal or disengagement (Morrow & Villodas, 2018). School disengagement is characterized by a lack of a positive emotional bond with academics, school personnel, or school-related activities. This bond is critical for students who have high ACEs scores, as they often do not have those positive emotional bonds at home, and the absence of positive emotional bonds both at school and home can contribute to a higher likelihood of high school dropout (Morrow & Villodas, 2018).

Another contributing factor for high school dropout rates related to adverse childhood experiences is persistently low academic achievement or course failure (Morrow & Villodas, 2018). The data from the Longitudinal Study of Child Abuse and Neglect revealed that high ACEs scores were significantly associated with the likelihood of grade repetition, poor grades in math and English, and poor performance on achievement tests (Morrow & Villodas, 2018). Children reporting three or more ACES were at a significantly higher risk of repeating a grade compared to students with no reported ACEs (Hinojosa et al., 2019). Grade retention is problematic for students because it can contribute to the loss of peer networks, as same-age peers

move up to the next grade. It can also create the stigma of being seen as not smart enough to pass to the next grade, followed by lowered expectations by teachers and peers, social isolation, and disruptive behaviors, which can all contribute to the loss of self-efficacy and self-esteem for many students (Hinojosa et al., 2019). These contributing factors can lead to academic failure, which increases the likelihood of a student to drop out of high school (Morrow & Villodas, 2018).

School absenteeism is another factor that can lead to increased high school dropout rates. Data retrieved from a questionnaire from the Centers for Disease Control and Prevention and the Short Child Maltreatment Questionnaire conducted in Wales shows a significant correlation between a child's ACEs score and a high rate of school absenteeism (Bellis et al., 2018). Adverse childhood experiences can lead to an increase in physical health problems, which in turn can contribute to higher rates of absenteeism. The more school that a child misses, the more likely it is for them to fall behind in school and not experience academic success, consequently leading to a higher likelihood of the child dropping out of school in adolescence (Bellis et al., 2018).

The negative academic impacts from adverse childhood experiences can also affect college outcomes as well. According to data from a National Longitudinal Study of Adolescent to Adult Health, it was revealed that adolescents who were exposed to adverse childhood experiences reported more pessimistic expectations about their future academic achievement and the likelihood that they would attend college (Brumley et al., 2017). This study showed that adolescents exposed to these experiences frequently formed expectations of shortened lifespans, which in turn leads them to discount the potential benefits of pursuing college (Brumley et al., 2017). This pessimistic outlook on higher education combined with their fatalistic expectations

often contributes to the further engagement of substance abuse and antisocial behavior, leading to a much lower likelihood of adolescents who have experienced adverse events to pursue college after high school (Brumley, 2017).

Adverse Childhood Experiences and the Parenting Cycle

Many children who have experienced adverse events are being raised by parents who have also experienced adverse experiences in their own childhood, therefore perpetuating the cycle of ACEs. Parents who have experienced multiple ACEs themselves have an increased risk of mental health issues, substance abuse problems, lack of social supports, limited education, and economic disadvantages, making it difficult for them to provide a supportive and nurturing environment for their own children (Woods-Jager et al., 2018). This can lead to toxic stress being passed from generation to generation, therefore leading to an intergenerational cycle of ACEs (Woods-Jager et al., 2018).

Research gathered from the Parenting Stress Index-Short Form (PSI-SF) and the Positive Parenting Practices (PPP) showed a direct relationship between a parent's own adverse childhood experiences and their current parenting stress and practices (Lange et al., 2019). The study examined low-income parenting women and found that outcomes associated with trauma are linked with parenting behaviors such as hostile-intrusive behavior towards their children, decreased involvement with their children, insecure parent-child attachment, and decreased maternal sensitivity (Lange et al., 2019). The data from the Parenting Stress Index-Short Form shows a direct association with the chronic stress a parent carries from their own trauma and negative parenting practices. These negative parenting practices can contribute to a child's difficulty with self-regulation and behavior, as the toxic stress experienced by their parent is often transferred to the child (Lange et.al, 2019). This study found that the potential for increased

parental stress might be due to the dysregulation of their own stress-response system caused by experiencing trauma as a child (Lange et al., 2019). Breaking the cycle of chronic parental stress caused by ACEs is a critical way to give children the opportunity to have a supportive family environment so they may have a better chance of experiencing emotional, social, and academic success in their lives (Scrimin et al., 2018).

Protective Factors

Protective factors are defined as psychological, biological, family, or community characteristics that are associated with a lower likelihood of negative effects from adverse events. Protective factors play an important part in building resiliency in children, which is necessary when overcoming adversity. The presence of protective factors in a child's life can interrupt a negative life course (Crouch et al., 2019).

It is widely acknowledged that growing up in highly stressful or traumatic environments can have a negative impact on child's or adolescent's life, making a supportive family system a very important protective factor in overcoming adversity (Scrimin et al., 2018). An Italian study conducted using the Child Health and Illness Profile—Child Edition along with caregiver interviews shows that the overall well-being of children increases when they are exposed to an increasing number of supportive resources provided by the family. This study found that individuals who had a score of four or more ACEs were less likely to report having an adult during their childhood who made them feel safe and secure, compared those individuals who had lower ACEs scores (Scrimin et al., 2018).

Positive communication between children and adults in their lives is also a key part of building resiliency, as data collected from a 2018 Health Behavior in School-aged Study

conducted in Slovakia shows that difficult communication or a complete lack of communication due to the absence of a parent increased the probability of behavioral and emotional problems in children and adolescents significantly. Their research shows that negative family interactions between parent and child are associated with higher levels of mental health problems such as anxiety and depression (Lackova et al., 2020). The findings of their study also show that increased communication with fathers during a child's adolescent years can help moderate emotional and behavioral problems that are often associated with ACEs, highlighting the importance of parental involvement and positive communication in the home.

Another protective factor in building adversity in children and adolescents who have experienced adverse events is living in a safe, stable neighborhood or environment (Crouch et al., 2019). Families who live in a low socioeconomic area often face financial stress, which is found to be associated with poorer mental health (Lackova et al., 2020). Living in impoverished conditions and low socioeconomic neighborhoods has been shown to negatively affect parenting quality and can in turn represent a risk factor for diminished children's health (Scrimin et al., 2018). According to a 2012 Annual Review of Public Health, living within a high concentration of poverty increases exposure to stressors such as a higher rate of neighborhood criminal activity and lower quality of infrastructures that can negatively affect relationships and trust amongst neighbors (Shonkoff et.al, 2012). Data from the Moving to Opportunity experiment and the Seattle-King County Healthy Homes Project shows that youth who spend much of their childhood and adolescence living in safe, stable, or advantaged neighborhoods were more likely to attend college, earn higher annual incomes, and were less likely to become single parents (Shonkoff et.al, 2012). The results of these studies show how living in a safe stable environment can become an important protective factor when dealing with adversity.

Another protective factor against adversity is having basic needs met and availability to adequate health care and proper nutrition. Research from the 2016 South Carolina Behavioral Risk Factor Surveillance System Study shows that respondents who had an ACEs score of four or more were less likely to have their basic needs met most of the time, resulting in poorer overall health compared to individuals who had a lower ACEs score (Scrimin et al., 2018). Likewise, the higher cost and lower availability of healthy foods to those living in impoverished situations can lead to poor nutrition, while limited recreational facilities and personal safety concerns can discourage physical activity (Shonkoff et.al, 2012). There is a strong correlation between families living in stressful and traumatic environments and the lack of access to medical care and the quality of care received as well (Shonkoff et.al, 2012). Having a school system, neighborhood facility, or caring adult who can help provide healthy foods, proper clothing, and opportunities for physical activities can act as an important protective factor, therefore improving a child's overall health and consequently build their resiliency to adversity.

Racial Disparities and Implications

Adverse childhood experiences can affect children of different economic statuses and races in different ways. According to a 20-year analysis of data from the American Counseling Association and the American School Counselor Association, there is a disproportionate rate of exposure to ACEs and the compounding effects of these events in individuals who identify as African American, Hispanic, or multiracial (Zyromski et al., 2020). Research from a 2011 National Survey of Children's Health shows that on average, racial and ethnic minority youth experienced more ACEs while also having access to fewer protective factors, lower household incomes, and worse overall health (Liu et al., 2020). This study shows that white youth had a consistently lower ACEs score than youth of color, while having greater access to protective

factors and better health compared to their Black or Latin peers (Liu et al., 2020). Their research shows that the access to these protective factors varies greatly among races and socioeconomic levels, and their findings show a strong correlation between racial and ethnic minority youth and a disproportionately rate of worse health and adversities such as low household incomes (Liu et al., 2020). They conclude that this disparity between ACEs and certain racial and ethnic groups is due to greater access to protective resources such as adequate health care and higher education level of caregivers for white youth.

A 2012 National Survey of Children's Health shows that racial and ethnic minority children are more likely to be exposed to adverse events such as poverty and stressful environments, providing them with additional disadvantages (Hinojosa et.al, 2019). The social inequalities between races can contribute to negative social, educational, economic, and health outcomes of children with higher ACEs scores (Hinojosa et.al, 2019). An Adolescent Supplement Survey (NCS-A), a nationally representative survey of adolescents aged 13–18 years, found that race and ethnicity continue to be a factor in health outcomes related to trauma exposure (Elkins et al., 2019). According to this study, one reason this may be true is because coping styles and environmental resources associated with ACEs may vary by racial and ethnic groups, leaving some ethnic groups more vulnerable to the negative effects of adverse childhood experiences (Elkins et al., 2019). Their research shows that a “wishful thinking” and “self-blame” coping style have been shown to be more prevalent among Hispanic adults compared to White non-Hispanic adults, while an increased social support and higher participation in religious activities have been shown to be associated with whites (Elkins et al., 2019).

However, not all racial implications are negative when it comes to ACEs and protective factors. According to the research from this same Adolescent Supplement Survey, it was found that African Americans have many culturally adaptive coping mechanisms that are accompanied by certain racial protective factors, such as large extended family support and a degree of pro-social racial respect that can be considered a protective factor against some negative effects of adverse childhood experiences (Elkins et al., 2019). Similarly, the findings for Hispanic adolescents found that many have support systems including ethnic socialization, parental, and community support that influences resilience in youth that have experienced adverse childhood events (Elkins et al., 2019). Their study was important, as it shows that while racial differences do exist in terms of the effects of adverse childhood experiences, the cultural differences by different ethnic groups can provide different types of protective factors that may not typically be found in all races (Elkins et al., 2019).

How Schools Can Help

Schools have a unique opportunity to provide many important protective factors for children and adolescents who have experienced adverse experiences in their lives. In a 2020 study conducted by the Centers of Disease Control, five strategies were identified as important interventions for ACEs, two of which included school-based supports such as enhancing a strong start for children through preschool programs and home visits and offering mentoring programs and after-school programs for students (Sharma, 2021). These are important ways that schools can help, as having a caring adult figure and a supportive environment are key protective factors for many students. Research from a 2018 New Haven Mental Health Outreach for Mothers (MOMs) partnership study highlights the importance of creating policies that seek to develop school environments that are more sensitive and aware of the effects that adverse experiences

can have on student success (Lange et.al, 2018). Creating school environments that are more sensitive and welcoming to students of diverse backgrounds is extremely important, as a content analysis study of the American Counseling Association and American School Counselor Association Journals shows that individuals who identify as lesbian, gay, bisexual, or transgender; or who identify as African American, Hispanic, or multiracial are all of greater risk of having a high ACEs score (Zyromski et al., 2020). Schools who promote social awareness and inclusivity in turn end up creating a safe and encouraging environment that provides a protective factor for students of all backgrounds and identities who have experienced adversity.

Another important way that schools can help students who have experienced adversity is by providing trained school counselors on-site who can provide services for students in need. According to the data from the content analysis of the American Counseling Association and American School Counselor Association, counselors who have access to students in schools have the unique ability to form relationships with children and adolescents and use evidence-based practices that have the possibility of directly counteracting the effects of ACEs on students (Zyromski et al., 2020). The American School Counselor Association (ASCA) recommends a 250:1 student-to-counselor ratio in schools to adequately meet the social and emotional needs of their students. Their association states that by supporting the mental health of students, students have a greater chance of academic achievement (Naik, 2019). Their belief is that public schools must be equipped to hire full-time school-based mental health professionals who can provide the mental health services needed to students who have survived trauma to try to give all students – regardless of the trauma they have endured – the opportunity to take full advantage of their educational opportunities (Naik, 2019). A lack of adequate mental-health support in the school system can have negative effects on a student with a high ACEs score's ability to succeed in

school, as according to a 2016 National Education Association report, adversity can influence the behaviors, emotions, and change the structure and processing of the brain, which can negatively impact a student's ability to succeed academically (Naik, 2019).

However, it is not just counselors who need to be trained in recognizing the possible effects from trauma in students, but teachers and other school personnel as well. According to a 2016 study conducted in an elementary school in an urban area of the Northeastern United States, to create a whole-school trauma informed approach, teachers must be taught how to develop and implement strategies for teaching coping skills, emotional processing, and problem-solving skills to students who have experienced adversity (Blitz et.al, 2016) One way they can do that is by establishing an environment of psychological safety by instituting consistent expectations and familiar routines, which can therefore reduce student anxiety, depressive symptoms, and improve self-esteem in children and adolescents (Blitz et.al, 2016). Teachers and other school personnel can also support and teach resiliency by talking openly about stressful events and acknowledging biases in the school and/or community, therefore promoting an environment of wellbeing and academic success (Blitz et.al, 2016).

Another way that teachers can offer a protective layer to children and adolescents is by building positive relationships between the school system and families. Positive relationships provide a source of support for families in times of stress and need (Sciaraffa et al., 2018). Parents who feel welcomed and accepted into their child's educational experience and feel that their input is valued and important tend to be more cooperative and involved in their education (Sciaraffa et al., 2018). A positive relationship between teachers and families helps general information about child development and discussions concerning the needs of the child take place (Sciaraffa et al., 2018). Additionally, teachers can model healthy adult-child interactions to

the families as well. By providing these positive experiences for students, schools can increase the chance of academic success for students who have experienced childhood adversity.

Assistance for Families

Many parents and caretakers who have experienced their own adverse experiences may benefit from school, community, and state assistance programs and policies that can help break the cycle of ACEs within their own families. Data from a 2016 South Carolina Behavioral Risk Factor Surveillance System emphasizes the importance of implementing a two-generation approach when creating programs and policies that assist families (Crouch et al., 2019). Their research shows that programs that teach parenting skills and child development to parents and caregivers who have experienced adversity can help strengthen families, develop nurturing and informed parents, and build social connections both within and outside of the family, therefore reducing the risk of the ACEs cycle to repeat through further generations (Crouch et al., 2019).

Access to affordable housing can also assist families and reduce the risk of ACEs. Research from a similar Behavioral Risk Factor Surveillance System study conducted in South Carolina focused primarily on homelessness and the effect has on ACEs scores and showed that practices and programs that address the prevention of homelessness amongst families may reduce the risk of adverse childhood experiences among many children and adolescents (Radcliff et al., 2019). In this study, surveys such as the Safe Environment for Every Kid (SEEK) were examined to identify many of the parental stressors frequently involved with homelessness. This survey identified the importance of having access to programs that can benefit low-income or homeless families such as housing programs and other service systems that can act as a protective factor to improve the generational cycle of ACEs (Radcliff et al., 2019). Their study shows that many homeless or low-socioeconomic families may benefit from educational

opportunities and services that may possibly improve the often poor social and health outcomes that ACEs can cause to future generations (Radcliff et al., 2019).

Not only is a caring environment an important protective factor for children who have been exposed to adversity, but so is access to adequate healthcare. A 2016 National Survey of Children's Health (NSCH) led by the Centers of Disease Control and Prevention highlights the need for pediatricians to routinely screen for ACEs in primary care, as they found it to be worthwhile to examine the relationship between not only a child's ACEs score and their current overall social and physical health, but as a way to try to predict the risk of increased harm to the child in the future (Thompson et al., 2020). Their findings show the need for policymakers and agency leaders to ensure that comprehensive and high-quality healthcare services that encompass a child's mental, social, and physical health are easily accessible to all families, and for federal and state policies to reimburse such agencies for the tools needed to provide these critical services (Thompson et al., 2020).

Accessible educational programs are also an important way to assist families, as they can help promote the appropriate mental health and parenting services that are critical in stopping the negative cycle of ACEs within families (Lange, Callinan & Smith, 2018). State and federal policies that focus on family investments such as affordable childcare, maternity and paternity leave, and safe neighborhoods are critical to the health and well-being of families and children and can therefore help decrease the risk of ACEs in future generations (Radcliff et al., 2019). A 2020 study conducted by the Centers of Disease Control showed the importance of providing economic support to families, promoting social norms against violence education and policy measures, and the development of skills that include social-emotional coping, parenting, and healthy relationships within families as important protective factors that can prevent the cycle of

ACEs within future generations (Sharma, 2021). Additional programs such as ACE Interface, a program created based on ACEs research, can help community members and practitioners understand the connections between childhood adversities and the importance of building stable, safe, and nurturing environments for children and adolescents (Radcliff et al., 2019). Other examples of such educational programs include federally funded Maternal, Infant, and Early-Childhood Home Visiting (MIECHV) programs and Strengthening Families Programs, both of which are evidence-based programs designed to strengthen families, improve their well-being, and prevent child abuse (Radcliff et al., 2019).

Areas of Future Research

While much research has been done on the topic of ACEs, there are still areas within this topic that continue to be studied. Many studies on the topic of adverse childhood experiences have shown a link between childhood adversity and emotional and behavioral problems in school, yet data from a 2018 Health Behavior in School-Aged Children conducted in Slovakia suggests that there is still research to be done to further assess how other factors such as parent-child communication can affect the emotional and behavioral development of children (Lackova et al., 2020). Research is still needed to determine if other possible factors, such as social factors identified by a 2016 Behavioral Risk Factor Surveillance System study as gender, socioeconomic status, and race/ethnicity, may affect not only the emotional and behavioral development of children, but the impact they may have on their physical health and later adult on-set chronic disease (Crouch et al., 2019).

While the link between adverse childhood experiences and emotional and behavioral problems has been proven, research is still needed to determine just how these negative outcomes may vary by developmental periods, as this may be an indicator of what can be done in

terms of ways to minimize risk and prevent maladaptive outcomes in children before they reach adolescence (Clarkson, 2104). Early intervention is key, and more research is needed to determine the effects of trauma on the different developmental stages of life (Clarkson, 2014).

Schools can be a place of refuge for children in crisis, as well as place where they can learn resiliency skills. Due to this, further research needs to be done on the best ways for those working with young children to be able to identify when children are distressed, and how to anticipate what needs that may have due to their exposure to adversity (Walker & Walsh, 2015). Recognition and early intervention are key in helping minimize the effects of adverse events, and school personnel can play a critical role in this process. Focusing research efforts on how to best involve school staff in the mitigation efforts of ACEs is an important step in providing key protective factors to children and adolescents facing adversity. It is known that when children and adolescents feel both safe and engaged in school, there is a higher likelihood of academic and social success and a lowered risk of high school dropout (Morrow, 2017). Research needs to continue to find ways to improve school engagement and build critical relationships between children and school personnel so that all children – including those who have experienced trauma and adversity in their young lives – may have the best possible chance of social and academic school success.

Conclusion

There has been much research conducted on the effects adverse childhood experiences have on children and their development. Research has shown a direct link between adverse childhood experiences and poor physical and mental health in children and adolescents that can continue into adulthood. The effects of poor physical and mental health can negatively affect a child's academic success, as these children often have issues with behavior, attention, and poor grades due to the adversity they have experienced in their young lives. Research has shown that while adverse childhood experiences can affect families of all races and socioeconomic statuses, there is a strong correlation between racial and ethnic minority youth and a disproportionately high rate of worse health and adversities such as low household incomes. However, there are protective factors that have been proven to offset some of the negative effects of adversity, and it is important for educators and other professionals who work with young children in school systems and through health care to promote programs that build positive relationships and provide safe, caring environments in which students can not only learn, but thrive. Building positive social connections within families, schools, and communities is a powerful tool in breaking the intergenerational cycle of ACEs.

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