Supporting Children with Adverse Childhood Experiences Within the Classroom

by

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Introduction

The Center for Disease Control and Prevention (CDC), in conjunction with Kaiser Permanente, reported that 63.9% of people experienced at least one adverse childhood experience (ACE) and 12.5% experienced four or more (Center for Disease Control and Prevention [CDC], 2020). The CDC defines ACE's as "potentially traumatic events that occur in childhood (0-17) (and) aspects of the child's environment that can undermine their sense of safety, stability, and bonding" (CDC, 2020). In 2015, 27.2% of Frederick County Maryland residents reported experiencing 3 or more ACEs (Frederick County Health Department, 2018). The more current Frederick county standard is over double the initial overall statistic from the CDC. These already startling statistics become more concerning when one considers the current Covid-19 pandemic. During the 2008 recession, Google searches related to child abuse and neglect, specifically reporting and identifying, increased (Bryant, et al. 2020). Both the current pandemic and the 2008 recession mounted stress on individuals, financially, mentally, emotionally. These mounted stressors have raised concerns for "an increase in risk for parental mental health challenges and substance use problems,... because of ongoing disruptions to daily routine as a result of school closures, social isolation, and job loss and income insecurity" (Bryant, et al. 2020).

Due to the ongoing COVID-19 Pandemic the Biden Administration recognized the concern of increased ACES. As a result, The Biden administration recently signed the American Rescue Plan Act that will provide funds for the reopening of schools. The Biden Administration provided instruction on where the funds should be used, and along with academic purposes, it should be used for, "social, emotional, and mental health needs of their students" (West, 2021). Therefore, validating the concern that is being recognized at multiple levels, including, the

national level. Although adequate funding is necessary for providing programs to support social emotional learning it cannot be the only step. Educators must be provided the education necessary to understand ACEs and utilize this knowledge to make decisions on how to use the funds in the most effective manner for students.

Sequence of Paper

This paper will provide the reader with a clear definition of Adverse Childhood Experiences, in both the original definition and in its relevance to education. The concept of ACEs was first developed in a 1995 CDC and Kaiser Permanente study. This study will be explained and key findings and statistics will be provided along with more updated statistics to highlight the growing concerns. From the key findings, the ten main ACEs were identified and will be defined. The original study also developed ten questions to assess an individual's experiences. These ten questions will be provided, as well as best practices for utilizing these questions. With the growing concern and development of ACEs newer questions and surveys have been developed and will be provided. There will also be information on when they should be utilized. With the growing development and research on ACEs, concerns are being raised with the equity of the original study and surveys. These concerns will be addressed to provide adequate knowledge and viewpoints of ACEs.

To provide more focused information, focus ACEs were selected, in the areas of parental substance abuse and parental mental illness. Multiple statistics for different races, genders, and parental types will be provided to encompass all students. The co-occurring nature of both ACEs will be explained along with statistics for it as well. In order to support the research and scholarly articles utilized personal interviews were conducted. Personal interviews were conducted on individuals on a volunteer basis. Eleven individuals were interviewed who had a variety of

backgrounds regarding ACEs. Some individuals experienced the ACE, including parents who struggled with substance abuse and/or mental illness, or adoptive parents of children who had experienced those ACEs from their biological parents. These individuals provided personal information on their experiences, effects in school, and positive or negative intervention practices. There were also interviews conducted with various education professionals. These individuals provided their knowledge of ACEs as well as their experiences with students with ACEs. These interviews along with research describe the effects of ACEs as seen in the classroom. A biological explanation for these effects is also provided. In analyzing these interviews, common themes of successful intervention were identified. These successful practices are identified and explained. Examples of programs that include these successful practices are also provided.

What are ACEs?

Defining ACEs

Frederick County Public Schools (FCPS) composed a health briefing on ACEs in 2021, and defined them as, “serious childhood traumas that result in toxic stress that can harm a child’s brain. This toxic stress may prevent children from learning, from playing in a healthy way with other children, and can result in long-term health problems” (Frederick County Public Schools, 2021 [FCPS]).

Original Adverse Childhood Experiences Study

The concept and term of Adverse Childhood Experiences (ACEs) was first developed by the Center for Disease Control and Kaiser Permanente (Center on the Developing Child, 2021). The Center on the Developing Child at Harvard University described the initial study on ACE's

as a “groundbreaking study”. This study began in 1995 and concluded in 1997 with over 17,000 health maintenance organization members from Southern California participating in two different waves of data collection. This study was completed using confidential surveys given to members of the Health Maintenance Organization from Southern California. It focused on their childhood experiences and their current health/behaviors (CDC, 2020). According to Center on the Developing Child at Harvard University this survey led to two key findings,

> (1) ACEs are quite common, even among a middle-class population: more than two-thirds of the population report experiencing one ACE, and nearly a quarter have experienced three or more.
>
> (2) There is a powerful, persistent correlation between the more ACEs experienced and the greater the chance of poor outcomes later in life, including dramatically increased risk of heart disease, diabetes, obesity, depression, substance abuse, smoking, poor academic achievement, time out of work, and early death. (Center on the Developing Child, Harvard University, 2011)

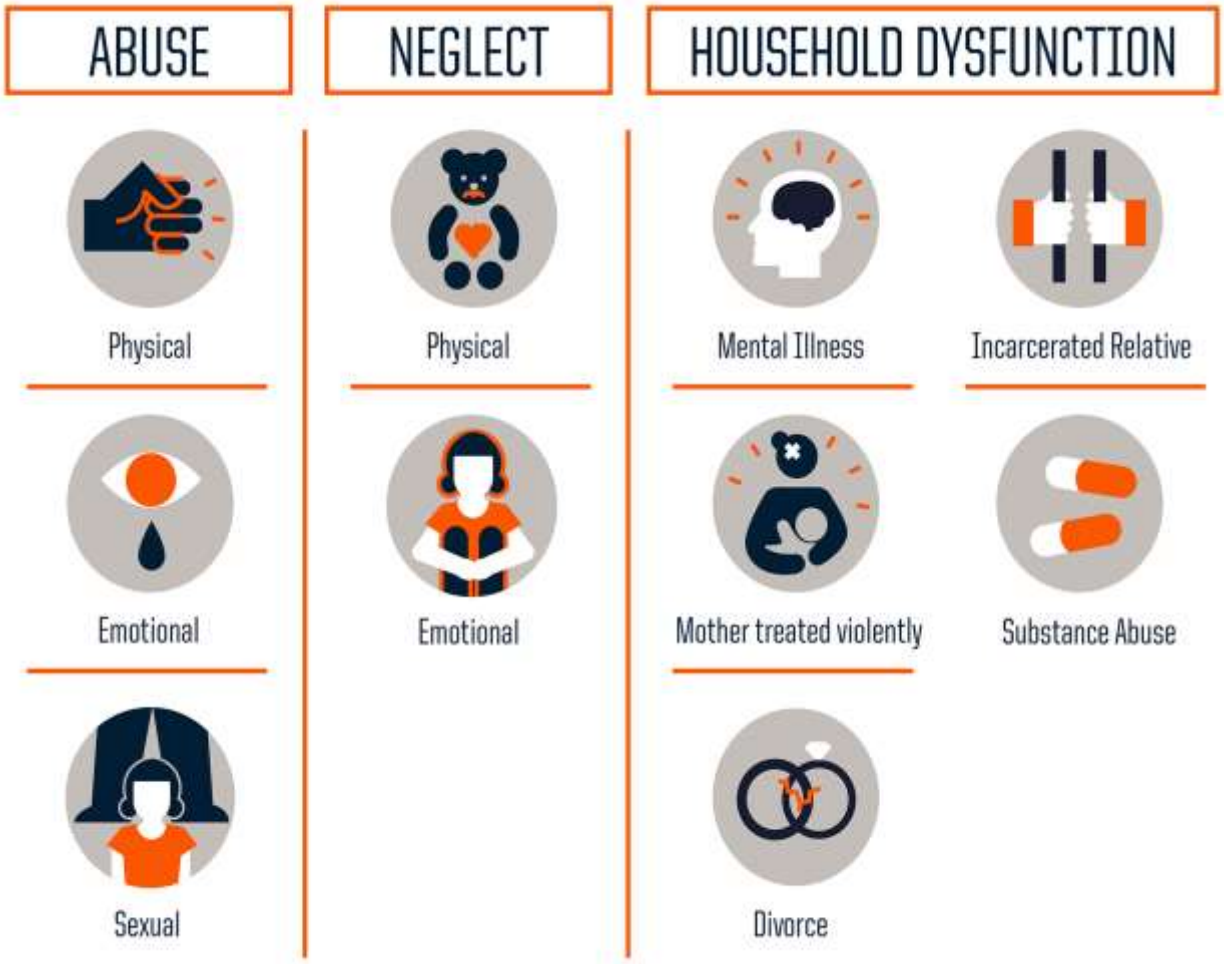
This survey began a discussion that continues to this day regarding ACEs and their impact on child development.

The Ten Original ACEs

The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study identified three areas of adversity as, abuse, neglect, and household dysfunction. In each area of adversity there are specific adverse experiences, totaling ten overall. Figure A1 is a diagram outlining the ACE categories with their subsequent experiences listed.

Figure A1:

ACE Categories with the specific ACEs outlined below them



Note. The above picture shows the three ACE categories: Abuse, Neglect, Household Dysfunction with the 10 ACEs outlined below them. This paper focuses on the category House Dysfunction with a lens on Mental Illness and Substance Abuse.

The area of abuse is categorized into physical, emotional, and sexual. Child Protective Services (CPS) currently defines physical abuse as "physical injury (not necessarily visible) of a child under circumstances that indicate that a child's health or welfare is harmed or at substantial

risk of being harmed." Emotional child abuse can be defined as, "damage to the child's psychological development and emerging personal identity" (Firestone, 1993, p. 3). Examples of emotional abuse can be swearing or screaming at a child, making negative remarks towards a child, etc. Sexual abuse is currently defined by CPS as, "an act or acts involving sexual molestation or exploitation whether physical injuries are sustained or not" (Child Protective Services, 2021).

The area of neglect is categorized into physical and emotional. Physical neglect is, "the failure to provide the needed food, clothing, shelter, medical care, or supervision" (Giovanelli, 2018, p. 23). The necessities listed above are all basic human needs that children rely on their trusted adults for. Emotional neglect can be defined as, "Neglect is the failure to meet a child's basic physical and emotional needs. These needs include housing, food, clothing, education, and access to medical care." (CDC, 2020).

The area of household dysfunction is categorized into mental illness, incarcerated relative, mother treated violently, substance abuse, and divorce. This category is on dysfunction in the household, therefore this removes the focus on just the primary caregivers and broadens it to all members in the household (Giovanelli, 2018). Studies on the ACE of mental illness often concentrate on household members suffering from depression and/or anxiety, as well as "having a family member attempt or die by suicide" (CDC, 2020). The ACE, of mother treated violently, is also identified as "exposure to domestic violence" (Giovanelli, 2018, p.29). There is a discrepancy between surveys regarding whether or not the ACE includes domestic violence towards parental figures other than the mother. Giovanelli (2018) describes this as a, "pattern of abusive behavior in any relationship that is used by one partner to gain or maintain power and control over another intimate partner" (p. 29). Abusive behavior can include hitting, grabbing,

biting, pushing, and/or threatening with weapons. The ACE of substance abuse refers to any household member that abuses alcohol or drugs. This extends beyond visually seeing them abuse alcohol or drugs and embodies the affects the actions of the family member had while under the influence. It also can incorporate other burdens on the family such as financial stressors due to the amount of money utilized to purchase alcohol or drugs. The final ACE of divorce focuses on instability in the home from having divorced parents, or parents that are frequently separated.

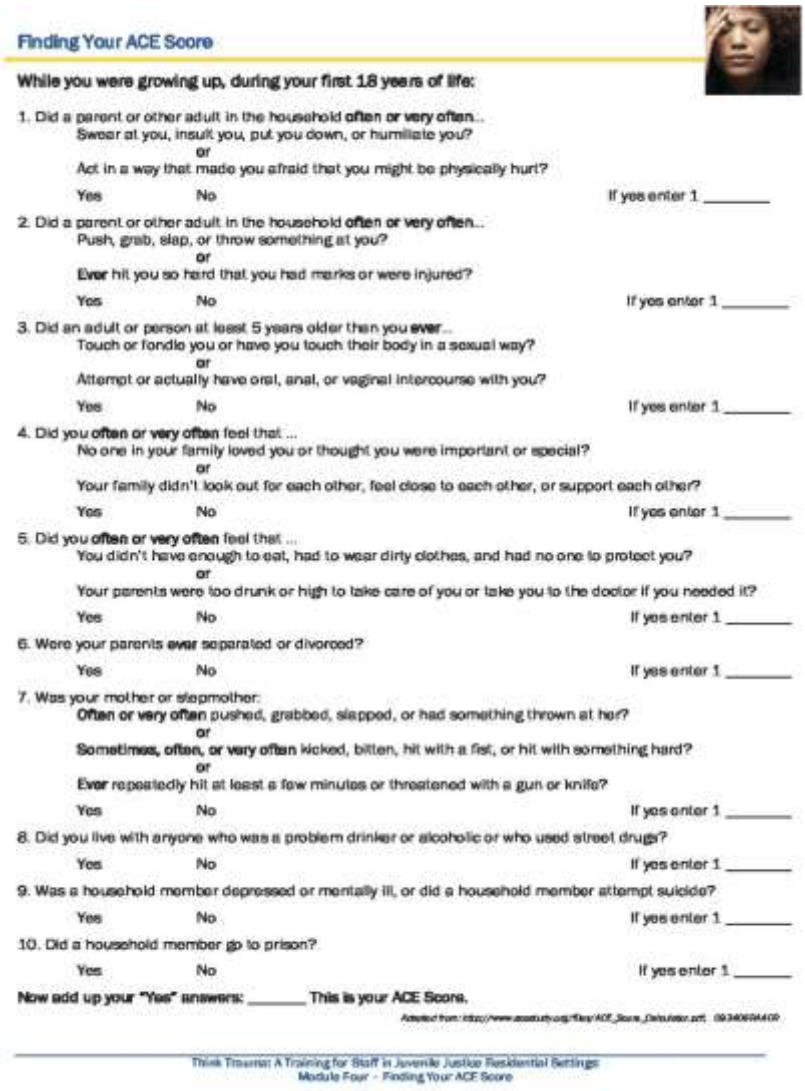
ACE Survey

Utilizing the Survey to Identify ACEs

In order to understand what adversities an individual has experienced; a survey is often used. The questions most commonly used on ACE surveys were developed based on the findings of the original 1995 CDC/Kaiser Permanente study. An example of these questions in a survey can be found in the figure below.

Figure B1:

Original ACE Questionnaire



Finding Your ACE Score

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often or very often**...
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often or very often**...
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever**...
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Attempt or actually have oral, anal, or vaginal intercourse with you?
   Yes No If yes enter 1 _____

4. Did you **often or very often** feel that ...
   No one in your family loved you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No If yes enter 1 _____

5. Did you **often or very often** feel that ...
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?
   Yes No If yes enter 1 _____

7. Was your mother or stepmother:
   Often or very often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
   or
   Ever repeatedly hit at least a few minutes or threatened with a gun or knife?
   Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
   Yes No If yes enter 1 _____

10. Did a household member go to prison?
    Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score.

Adapted from: http://www.acestudy.org/files/ACE_Score_Calculator.pdf 09340694409

Think Trauma: A Training for Staff in Juvenile Justice Residential Settings
Module Four - Finding Your ACE Score

Note: The survey above is created using data collected from the original study completed by the CDC and Kaiser Permanente.

Since the original, 1995 study, there have been many variations of the survey developed for various age ranges, as well as online and in paper formats. Although an adult can take the questionnaire they are only supposed to answer for events in their childhood, ages 0-17. The most common questionnaire is a ten-question survey, with six of them being multi-part questions. Each question assesses the ten different categories that were previously identified and described. There are four questions that solely address the category of household dysfunction.

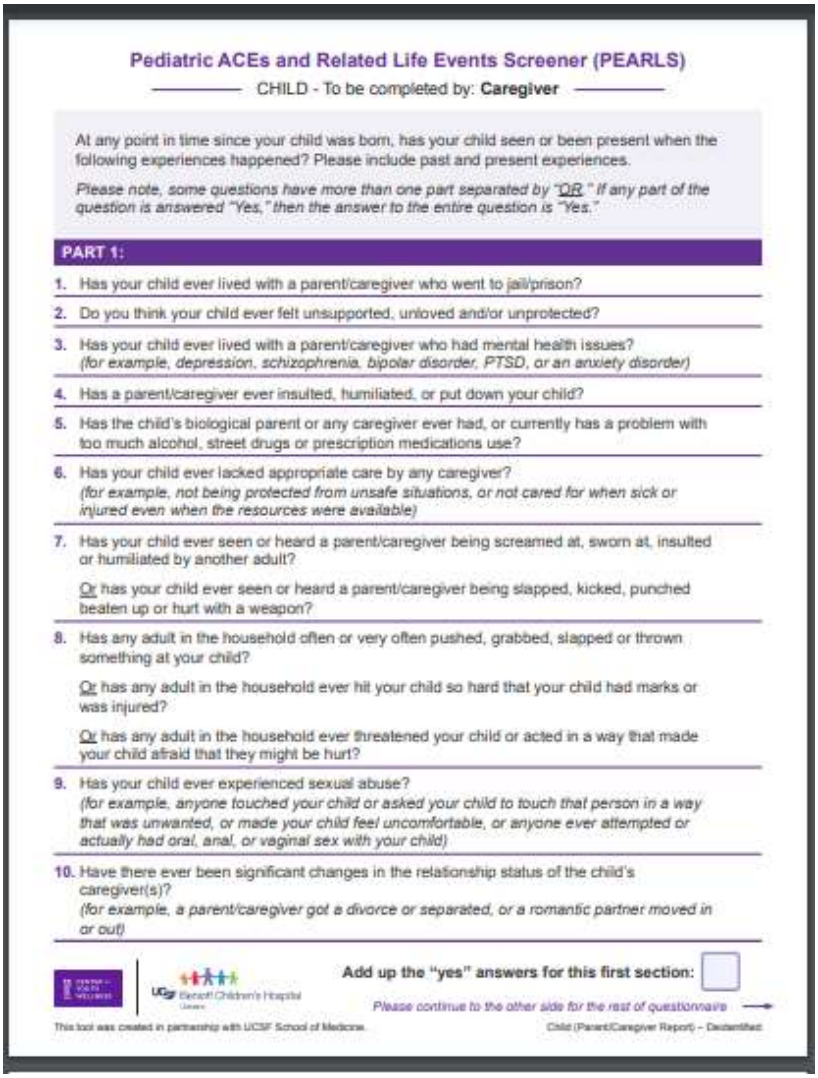
For example, the question for the ACE of divorce is, “Were your parents ever separated or divorced?” (National Council of Juvenile and Family Court Judges [NCJFCJ], 2006). The other six questions focus on all three of the categories; abuse, neglect, and household dysfunction, and are posed in a way that asks the individual to consider experiences or their feelings. For example, the question for the ACE of physical neglect is, “Did you often or very often feel that …You didn’t have enough to eat, had to wear dirty clothes, and had no one to protect you? Or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?” (NCJFCJ, 2006).

Different Formats

Depending on the age range and comprehension level of the individual, different forms of the questionnaire may be used. The website, https://www.acesaware.org/screen/screening-tools/, provides the Pediatric ACEs and Related Life Events Screener (PEARLS). The PEARLS surveys were developed by the Bay Area Research Consortium on Toxic Stress and Health (BARC). This group is a partnership of Center for Youth Wellness, the University of California, San Francisco (UCSF), and UCSF Benioff Children’s Hospital Oakland. This screens for the same ten ACEs as the commonly used questionnaire but uses simpler questions with notes below the questions to assist the individual. For younger individuals, or individuals who struggle with comprehension, a parent-caregiver survey may be used. This style of survey would be utilized if the child being assessed cannot comprehend the complex nature of the questions being asked. This survey requires the parent or caregiver of the child to answer the questions with their child in mind, and the questions are worded accordingly. An example of a parent-caregiver question is, “Has your child ever lived with a parent/caregiver who went to jail/prison?” (aces aware, 2021). An example of this survey can be found in the figure below.

Figure C1:

PEARLS Parent Questionnaire



Pediatric ACEs and Related Life Events Screener (PEARLS)

CHILD - To be completed by: **Caregiver**

At any point in time since your child was born, has your child seen or been present when the following experiences happened? Please include past and present experiences.

Please note, some questions have more than one part separated by "OR." If any part of the question is answered "Yes," then the answer to the entire question is "Yes."

PART 1:

1. Has your child ever lived with a parent/caregiver who went to jail/prison?
2. Do you think your child ever felt unsupported, unloved and/or unprotected?
3. Has your child ever lived with a parent/caregiver who had mental health issues? *(for example, depression, schizophrenia, bipolar disorder, PTSD, or an anxiety disorder)*
4. Has a parent/caregiver ever insulted, humiliated, or put down your child?
5. Has the child's biological parent or any caregiver ever had, or currently has a problem with too much alcohol, street drugs or prescription medications use?
6. Has your child ever lacked appropriate care by any caregiver? *(for example, not being protected from unsafe situations, or not cared for when sick or injured even when the resources were available)*
7. Has your child ever seen or heard a parent/caregiver being screamed at, sworn at, insulted or humiliated by another adult?

   Or has your child ever seen or heard a parent/caregiver being slapped, kicked, punched beaten up or hurt with a weapon?
8. Has any adult in the household often or very often pushed, grabbed, slapped or thrown something at your child?

   Or has any adult in the household ever hit your child so hard that your child had marks or was injured?

   Or has any adult in the household ever threatened your child or acted in a way that made your child afraid that they might be hurt?
9. Has your child ever experienced sexual abuse? *(for example, anyone touched your child or asked your child to touch that person in a way that was unwanted, or made your child feel uncomfortable, or anyone ever attempted or actually had oral, anal, or vaginal sex with your child)*
10. Have there ever been significant changes in the relationship status of the child's caregiver(s)? *(for example, a parent/caregiver got a divorce or separated, or a romantic partner moved in or out)*

Add up the "yes" answers for this first section: ☐

Please continue to the other side for the rest of questionnaire →

This tool was created in partnership with UCSF School of Medicine.

Child (Parent/Caregiver Report) – Deidentified

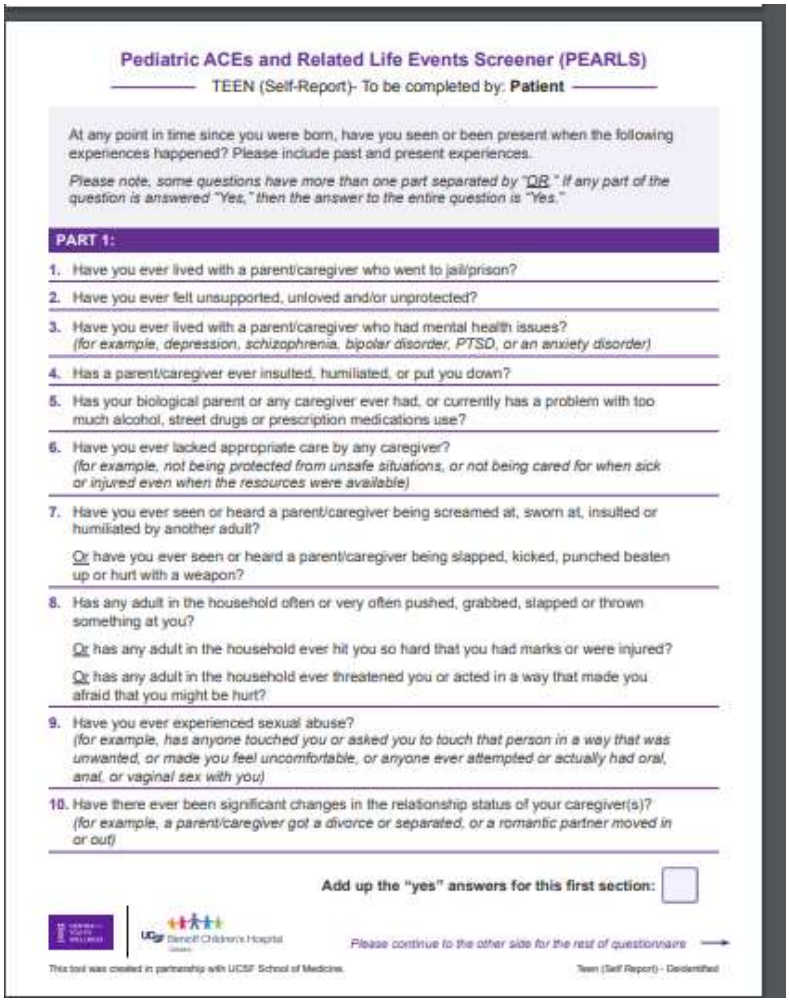
Note: The figure above shows the parent questionnaire that would be given to the parent or caregiver of a child. These questions are known to be more user friendly and provide examples.

PEARLS offers parent-caregiver surveys in the child category. These reports require the parent or caregiver to honestly answer questions that may reflect negatively on them or people they trusted their child with. Young children can also be interviewed by an unbiased, trusted adult,

using the questions as a guide. For older children or adults, the common survey is usually given, but PEARLS also offers a teen version, in independent and parent-caregiver format. This survey can be found in the figure below.

Figure D1:

PEARLS Teen Questionnaire



Pediatric ACEs and Related Life Events Screener (PEARLS)

TEEN (Self-Report)- To be completed by: **Patient**

At any point in time since you were born, have you seen or been present when the following experiences happened? Please include past and present experiences.

Please note, some questions have more than one part separated by "OR." If any part of the question is answered "Yes," then the answer to the entire question is "Yes."

PART 1:

1. Have you ever lived with a parent/caregiver who went to jail/prison?
2. Have you ever felt unsupported, unloved and/or unprotected?
3. Have you ever lived with a parent/caregiver who had mental health issues? *(for example, depression, schizophrenia, bipolar disorder, PTSD, or an anxiety disorder)*
4. Has a parent/caregiver ever insulted, humiliated, or put you down?
5. Has your biological parent or any caregiver ever had, or currently has a problem with too much alcohol, street drugs or prescription medications use?
6. Have you ever lacked appropriate care by any caregiver? *(for example, not being protected from unsafe situations, or not being cared for when sick or injured even when the resources were available)*
7. Have you ever seen or heard a parent/caregiver being screamed at, sworn at, insulted or humiliated by another adult?

   Or have you ever seen or heard a parent/caregiver being slapped, kicked, punched beaten up or hurt with a weapon?
8. Has any adult in the household often or very often pushed, grabbed, slapped or thrown something at you?

   Or has any adult in the household ever hit you so hard that you had marks or were injured?

   Or has any adult in the household ever threatened you or acted in a way that made you afraid that you might be hurt?
9. Have you ever experienced sexual abuse? *(for example, has anyone touched you or asked you to touch that person in a way that was unwanted, or made you feel uncomfortable, or anyone ever attempted or actually had oral, anal, or vaginal sex with you)*
10. Have there ever been significant changes in the relationship status of your caregiver(s)? *(for example, a parent/caregiver got a divorce or separated, or a romantic partner moved in or out)*

Add up the "yes" answers for this first section: ☐

Please continue to the other side for the rest of questionnaire →

This tool was created in partnership with UCSF School of Medicine.

Teen (Self Report) - Deidentified

Note: The questionnaire above is the teen questionnaire created PEARLS. It is focused on more teen friendly questions and provides examples for them to reference. This survey focuses on determining the ACEs at a younger age and allows supports to be put in place sooner.

The only difference from the child to the teen version, is the teen version includes questions about personal incarceration and partner domestic violence. PEARLS offers the parent-caregiver format, in the event the teen cannot comprehend, or will not answer the survey.

Administering the Survey

Current Practices

According to Robert F. Anda, MD, MS, Laura E. Porter, BA, and David W. Brown, DSc, MScPH, MSc, with the growing attention to ACE's, there has been an increasing promotion to use the ACE score as a screening tool (Anda et al., 2020). Common settings for screening are schools, doctors' offices, and mental health related facilities; however, a screening tool is not usually utilized unless a concern is raised about a student by a professional in the building.

The topic of universal ACE screening is one that comes with controversy, because of the sensitive nature of the experiences. Due to the sensitive nature of administering the survey it became evident that there is a need for training in "methodology of engagement in order to ask the right questions, how to advocate, which agencies could help and how to avoid adversely reinforcing the negative impact of trauma" (RB-Banks & Meyer, 2017, p. 67). In order to circumnavigate this training, there has been discussion and attempts made to have the survey delivered through a doctor's office. However, this again has been met with challenges and obstacles (Finkelhor, 2018).

There seems to be a similar need for education in the medical field as there is in the educational field. A major concern is "will practitioners sensitively carry out the screening, or be skeptical of its utility or reluctant to broach the topic and make necessary referrals." (Finkelhor, 2018, p.3). In a study conducted by Vincent J Felitti, MD, FACP, of the 135,000 participants

who were given ACE surveys and then provided follow-up in the exam room, had a 35% reduction in outpatient doctor visits (Feliltti, 2019.) Despite this knowledge, in a 2020 survey write-up, of 226 physicians surveyed, 81% reported never hearing of the ACE questionnaire and only 3% reported using the questionnaire in their practice (Stork et al., 2020). Also, in a 2018-2019 survey, there were 184 participants, including 89 family physicians, 46 psychiatrists, and 48 other specialists, less than 10% reported asking patients about ACEs (Maunder et al., 2020). Based on these surveys, it appeared that implementing these surveys utilizing medical professionals was also not an effective practice. In spite of all of this controversy many organizations and professionals in the education field are working diligently to develop practices for implementing ACE surveys in a manner that is effective and can be utilized to support students.

Recommendations for Implementation

Dr. Katie Eklund and Dr. Eric Rossen, states that despite the controversy surrounding a universal screener it "can serve as a useful tool to determine potential risks for stress or trauma among students in schools" (Eklund & Rossen, 2016, p.10). Therefore, more articles and professionals in the education field have made recommendations on methods that could be utilized to implement a universal screener within the school setting. These recommendations include, but are not limited to, gaining parental consent, implementing the survey in an anonymous manner or developing rapport in order to implement the survey in a sensitive manner, and ensuring interventions and supports are available to assist students once the survey is completed (Eklund & Rossen; 2016, Thatcher, personal communication, January 21, 2021; H.R., personal communication, February 26, 2021; Herriford, 2019; T.D., personal communication, January 26, 2021;)

Dr. Katie Eklund and Dr. Eric Rossen stated, “Due to the sensitive nature of asking children about their exposure to potentially traumatic experiences, parental consent becomes a critical consideration when engaging in school-based screening procedures” (Eklund & Rossen, 2016, p.5). If parental consent is obtained prior to the screener being utilized the caregivers can also preview the screener and this will negate the shock factor that was associated with the previously administered universal screener. It will also allow school staff time to prepare resources for the caregivers to reference in the event that students have questions regarding questions asked on the screener. This could include pamphlets, a family night to discuss these concerns, or other resources. In addition, once these conversations between caregivers and school staff have begun, it may also open doors for caregivers to communicate with the school if their child could potentially be upset or triggered by the survey.

In an interview with current FCPS third grade teacher, H.R., she highlighted a concern regarding obtaining parental consent. She stated that obtaining parental concern may also give caregivers the opportunity to prep their children for the survey and guide them to answering questions in a manner that would not alert the school to any trauma or concerns within the home. She also provided that although the caregivers could do this it may allow students to realize that the behavior that occurs in their home is not “typical” and they may begin the discussion with school staff anyway (H.R., personal communication, February 26, 2021). This will also allow staff and caregivers the opportunity to discuss the survey and deliver in a manner that is sensitive to each individual student.

In order to gain accurate and meaningful results the survey must be implemented in a manner that is sensitive in nature. Knowledge Works, an organization that was developed to provide meaningful lessons in response to current issues. This organization is led by 12 diverse

individuals who come from a variety of backgrounds both in and out of education. They have an additional 42 members who assist with all aspects of development of material and distribution. They bring their knowledge together to support teachers in their pursuit of educating students in a meaningful manner. Knowledge Works provides the recommendation that depending on the situation, this could be done in an anonymous setting (Herriford, 2019). For some students, this may make them feel more comfortable, and therefore be more willing to be honest in their answers. Although this manner of implementing the survey does not allow us to provide targeted intervention for individuals, school-based staff with specific focus on the school counselors as they have extensive background knowledge on trauma informed practices can develop school-based lessons that are directed towards the overarching themes noticed in the survey. Knowledge Works goes on to state, "In some situations, school counselors administer the assessment anonymously to get a sense of the situation within a population without specifically identifying individual status" (Herriford, 2019) Another option for administration is a survey or informal survey conducted in a one one-to-one setting. This may be used when a concern is raised by a professional in a school regarding a specific student. In this setting the student may be more reluctant to share. In an interview with T.D., a now 22-year-old who was raised by two parents who suffered from alcohol abuse, he shared, "don't push too hard, kids get uncomfortable so try and stay in their comfort zone, nobody likes to talk bad about their family" (T.D., personal communication, January 26, 2021). His point highlights the need to build rapport with a student, to implement the survey in a sensitive manner. This approach means building rapport prior to implementing the survey. This will allow the student to be more comfortable and more willing to open up about what they are experiencing. This is highlighted by Charles Thatcher III, FCPS School Psychologist, when he talks about the importance of utilizing the conversation method

when administering. He shared that with the conversation method you can assist the person to share more information and to, “look for nonverbal signs to direct (the) conversation” (Thatcher, personal communication, January 21, 2021). This will also assist the administrator in beginning to better understand the student and the supports they may need to overcome the effects of their ACEs.

Adequate supports and interventions must be made available prior to the administration of the questionnaire (Eklund & Rossen, 2016,). This ensures that the school personnel can address the effects of the ACEs and is prepared to assist the student in a timely manner. For students who have experienced adversities, completing a questionnaire in any setting can trigger negative feelings. One positive example provided by, Dr. Katie Eklund and Dr. Eric Rossen is, “school-wide screening data may indicate one classroom of fifth grade students are in need of support for addressing signs of traumatic stress. In such cases, several targeted interventions have demonstrated positive outcomes among students experiencing trauma” (Eklund & Rossen, 2016, p.8). Upon implementation of the survey this particular school was prepared to implement several interventions in their fifth-grade classroom. These interventions were focused on the traumatic stress that the students were experiencing and were able to be implemented in a timely manner. This allowed for increased success of the interventions.

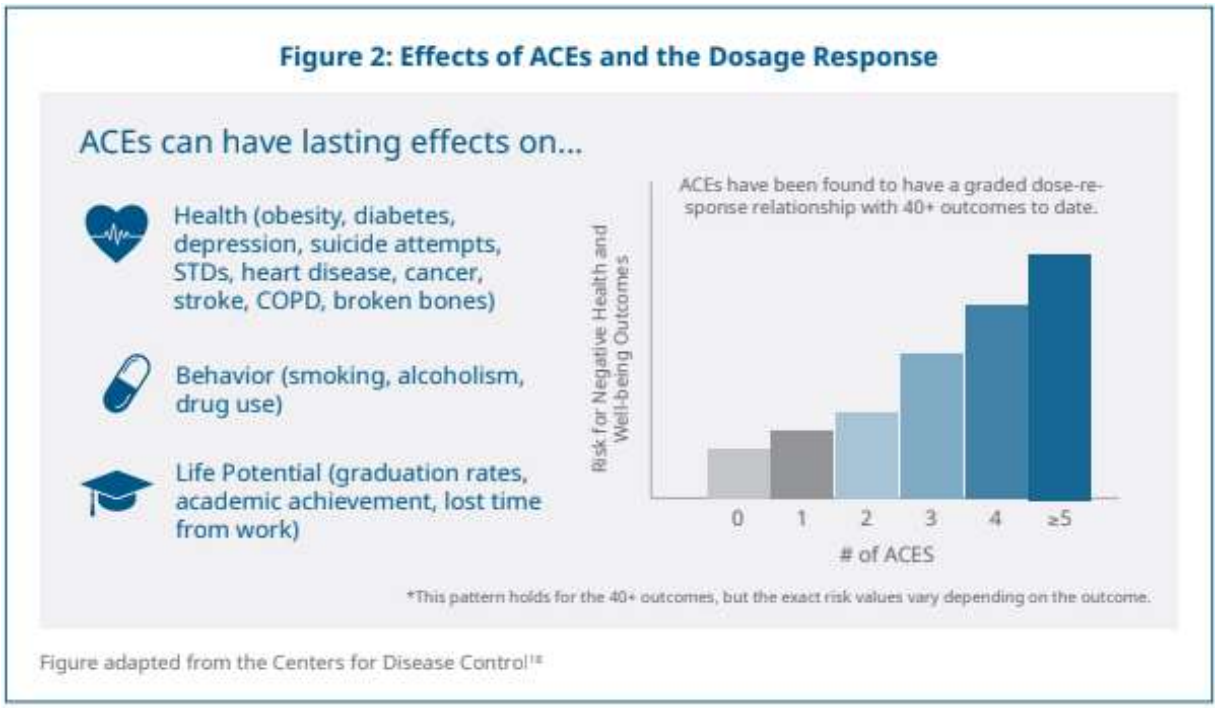
The ACE Score

After an individual completes an ACE questionnaire, they are given an ACE score. Their score can be anywhere from a 0 to a 10. For each question on the survey that the individual answers “yes” to, they must mark down a point. For example, question 9 on the traditional questionnaire is, as seen in figure B1, “Was a household member depressed or mentally ill, or did a household member attempt suicide?” (NCJFCJ, 2006) If the individual answers yes to this

question, they would add one point towards their ACE score. They then total all of these points, and the sum of them is their overall ACE score. In terms of decreasing chances of future negative outcomes, a lower ACE score is desired, as that means they have experienced less adversities, as a child, identified on the questionnaire (CDC, 2020). ACEs are described to have a graded-dose-response with a variety of negative outcomes, including struggling to build relationships, academic concerns, and behavioral dysregulation. This has the ability to affect individuals social, emotional, and physical well-being "While the exact number of ACEs that predict the different problems varies by outcome, the pattern of increased risk for individuals with more ACEs is near universal" (Thompson & Kaufman, 2019). This is highlighted in the figure referenced below created by the CDC,

Figure E1:

Graded Dose Response



Note: The figure above shows statistics based on the Graded-Dose-Response that works to assist professionals in understanding the risk associated with increased number of ACEs.

Typically, the more ACEs an individual has had, the more negative outcomes they may experience as well.

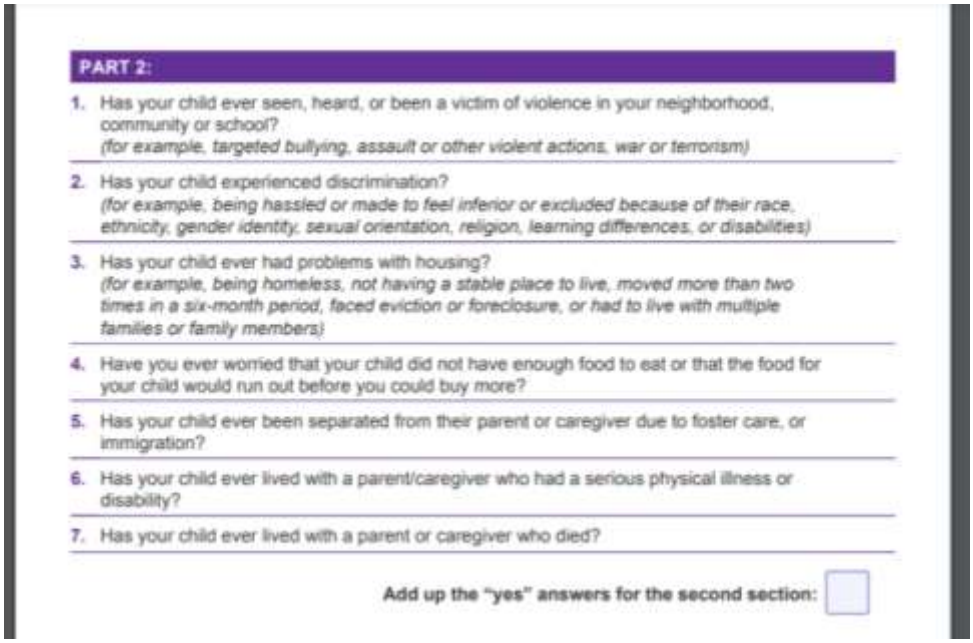
Racial/Ethnic Considerations

The commonly used questions are based on the ten ACE's originally identified in the 1995 CDC/Kaiser Permanente study. As awareness for ACE's has grown, and further research has been conducted, there has been an encouragement to update the questionnaire to reflect today's families and growing adversities, as well as other races and economic groups (Thompson & Kaufman, 2019). The original ACE study was conducted on a predominantly white middle to upper class cohort, with 74.8% of the participants in the study being white (Thompson & Kaufman, 2019; CDC, 2020). The current survey is approximately 25 years old and is not reflective of society's growing diversity in family dynamics and racial backgrounds. One concern, of the wording of some questions, is that they are not encompassing of all genders and family dynamics. For example, in the original questionnaire, as seen in figure B1, question 7 asks, "Was your mother or stepmother: Often or very often pushed, grabbed, slapped, or had something thrown at her? Or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? Or Ever repeatedly hit at least a few minutes or threatened with a gun or knife?" (NCJFCJ, 2006). Although statistically, women are at a higher rate of domestic violence, one out of every nine men are victims and in Maryland it is even higher with 28.8% of men being victims of intimate partner violence (National Coalition Against Domestic Violence [NCADV], 2020). By using the words "mother" or stepmother" it is not encompassing of fathers, same sex marriages with male partners, or parents/guardians that do not use traditional pronouns

or the traditional parent titles of mom and dad. If the wording of the questionnaire solely uses the traditional parental title of mother, and the individual does not have that in their home, it may confuse them. Or, if there is domestic violence in their home, but it is not directed at a mother figure, or parent they call mother, they may be more reluctant to share that. Some organizations are already making these updates, such as the PEARLS questionnaire, as seen in the figure below.

Figure F1:

Updated Questions on the PEARLS Questionnaire for the Caregiver Survey for Children



PART 2:

1. Has your child ever seen, heard, or been a victim of violence in your neighborhood, community or school?
   (for example, targeted bullying, assault or other violent actions, war or terrorism)
2. Has your child experienced discrimination?
   (for example, being hassled or made to feel inferior or excluded because of their race, ethnicity, gender identity, sexual orientation, religion, learning differences, or disabilities)
3. Has your child ever had problems with housing?
   (for example, being homeless, not having a stable place to live, moved more than two times in a six-month period, faced eviction or foreclosure, or had to live with multiple families or family members)
4. Have you ever worried that your child did not have enough food to eat or that the food for your child would run out before you could buy more?
5. Has your child ever been separated from their parent or caregiver due to foster care, or immigration?
6. Has your child ever lived with a parent/caregiver who had a serious physical illness or disability?
7. Has your child ever lived with a parent or caregiver who died?

Add up the "yes" answers for the second section:

Note. These questions are an extension to the original PEARLS survey designed for caregivers of younger children. These questions are based on updated recommendations and concerns that the previous survey was not as culturally aware it should be.

The PEARLS questionnaire is also updated to include some of the new adversities that many groups have been calling for. These changes include a parent/caregiver version to give to

students who are too young to understand or comprehend the questions. They have also updated the wording to embody a variety of family dynamics. They now have all questions saying parent/caregiver instead of being specific to a gender specific roll.

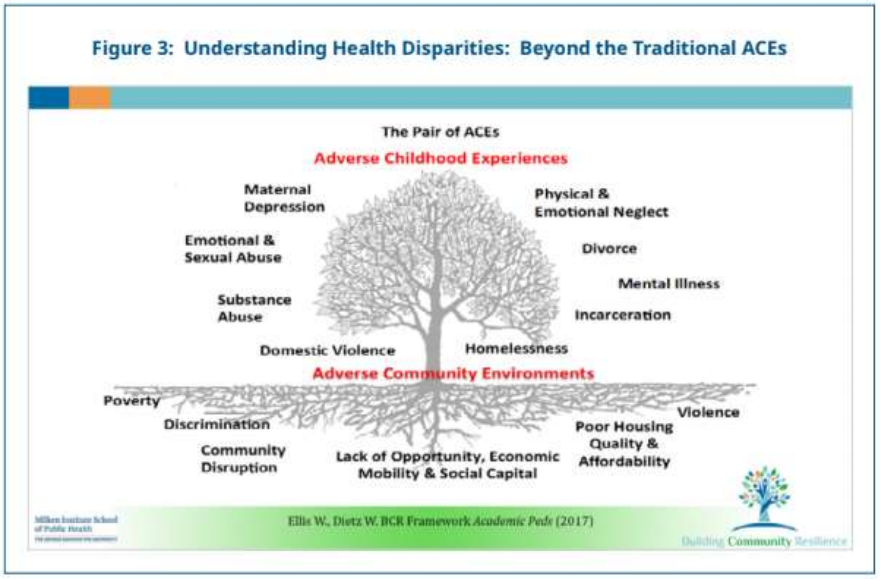
There are many adversities that have been happening for decades, but recent events such as current race relations, increased concerns with mental health, political atmosphere, and increases in violent acts have led to a growing concern with increased awareness of their impact (The Philadelphia ACE Project, 2013). Some ACE programs are starting to include and treat trauma in new areas, but overall, there is a lack of notice of them. The Philadelphia ACE Project was formed around this concern of ACEs in the urban setting rather than just middle to upper class white populations. Out of this concern the Philadelphia Expanded ACE Study was created to better understand the adversities that are being faced in our communities and the impact they have. (The Philadelphia ACE Project, 2013). They include five new ACEs; the first being, "witness violence", which includes witnessing fights, stabbings, and shootings. The second is "felt discrimination" which is described as, being treated unfairly because of race or ethnicity. "Adverse neighborhood experiences" involves the individual's sense of safety and belonging in their neighborhood. The final two are "bullied" by peers or classmates and "lived in foster care" (The Philadelphia ACE Project, 2013). The Maryland State Education Association in 2019, created the Trauma Toolkit which highlights, community violence, refugee experience, and terrorism as other forms of trauma that are not included in the survey. These additional forms of trauma can trigger the same responses in individuals as the original ten ACES (Thompson & Kaufman, 2019). Other organizations and individuals are pushing to include racism or ethnic discrimination, and poverty as well (Thompson & Kaufman, 2019; Maguire-Jack et al., 2020). A 2016 study conducted by the National Survey of Children's Health conducted research to

examine whether or not ACEs are experienced at the same rate across racial groups. This study found that “black children are roughly three times more likely to be poor (Maguire-Jack et al., 2020). Their study also showed that in the area of racial/ethnic discrimination, 4.4% of Latinx and 10.5% of Black individuals experienced that adversity, where only 1.0% of their white individuals did.

A report published in 2019 focused on the services available to prevent and reduce the effects of ACEs experienced by children in Baltimore City (Thompson & Kaufman, 2019). This survey focused on individuals who have experienced both traditional and community level ACEs. This study and resources also call for the addition of community factors to the ACE scale, such as discrimination, community violence, and poverty. The article also includes a graphic, that can be seen in the figure below, that depicts negative environments, such as, discrimination, community violence, refugee situations, poor housing quality, etc. under the ground and a tree growing from that ground with the common ACEs on it.

Figure G1:

Understanding How the Environment Can Contribute to the ACEs



Note. The above picture depicts how the environment can impact the ACEs that children experience. This highlights the fact that several environmental factors such as poverty or community disruption can lead to an increased number of ACEs.

It explains how the environment often contributes to the ACEs. Although, if an updated questionnaire is not being utilized but proper discussions and treatment are, these factors should be brought forth and treated accordingly. Therefore, it is important to keep these factors in mind when utilizing ACE tools and questionnaires.

Focus ACES

In order to provide more focused information there is a focus on two ACEs, Parent/Guardian or Household Member with Mental Illness and Parent/Guardian or Household Member with Substance Abuse. These ACEs also can occur concurrently.

Parent/Guardian or Household Member with Mental Illness

The ACE of having a parent/guardian or household member with mental illness is in the category of household dysfunction. In the original questionnaire, as seen in Figure B1, it is measured by asking the individual, "Was a household member depressed or mentally ill, or did a household member attempt suicide?" (NCJFCJ, 2006). According to the Mayo Clinic, examples of mental illness include, depression, anxiety disorders, schizophrenia, etc. (Mayo Clinic, 2019). In the original CDC and Kaiser Permanente study this ACE was the fifth most prevalent ACE with 19.4% of the participants reporting experiencing this adversity. This was broken down between female and male participants with 23.3% reporting experiencing it, and 14.8% of the male participants experiencing it (CDC, 2020). Additional data regarding the discrepancies with race were collected in a survey conducted by the National Survey of Children's Health in 2016. This survey was completed over 20 years after the original CDC and Kaiser Permanente survey that was completed in 1995 (CDC, 2020). The National Survey of Children's Health study showed that, 8.9% of their white participants, 8.8% of their Latinx participants, and 6.5% of their Black participants reported experiencing this ACE (Maguire-Jack et al., 2020). In this study, having a household member with mental illness, was one of only two ACEs that the white participants had the highest percentage. These discrepancies were also noted among two parent and single parent households. According to the, Indian Journal of Health and Wellbeing, a journal published in the country of India, 88.3% of single parent participants had poor to very poor mental health. They went on to state "that single parents had poor mental health status compared to other counter parts" (Pujar et al., 2018, p. 375).

Parent/Guardian or Household Member Struggling with Substance Abuse

Having a parent/guardian or household member struggling with substance abuse is an ACE in the category of household dysfunction. In the original questionnaire, it is assessed by

asking the individual “Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?” (NCJFCJ, 2006). Common Maryland street drugs are morphine, codeine, fentanyl, opioids, and synthetic cannabinoids (Seiler, 2018). The original study conducted by the CDC and Kaiser Permanente in 1999 found, having someone in your household who was a problem drinker or alcoholic or used street drugs is the second highest ACE with 26.9% of their participants reporting had experienced this ACE. 29.5% of the female participants reported experiencing it and 23.8% of the male participants did as well (CDC, 2020). The National Survey of Children’s Health, in a 2016 study that focused on adversities on different races, found that, 9.7% of their white participants, 8.8% of their latinx participants, and 7.9% of their black participants reported experiencing the ACE of having a household member struggling with substance abuse (Maguire-Jack et al., 2020). Single parents are often at risk for substance abuse because of the financial and emotional stress that comes along with being a single parent. It can also be challenging for them to seek treatment because of financial and legal fears (Seiler, 2018).

Co-occurring Substance Abuse and Mental Illness

“Up to 50% of substance abusers are suffering from PTSD, and some reports show that up to 90% have a depressive or anxiety disorder of some form” (National Abandoned Infants Assistance Resource Center, 2012). Individuals struggling with mental health disorders have a tendency to turn to drugs to deal with the negative effects such as insomnia or boredom. Some individuals also use it so self-medicate or deal with the side effects of medication. Drug use can also lead to psychosis because of the psychometric properties. Popular drugs such as cannabis make an individual 2.3-3.3 times more likely to experience psychotic episodes (Pawsey & Castle, 2006). One adversity can lead to the other, in both directions. Therefore, children who have a household member that suffers from one of the focus ACEs, are at a higher chance of

having the household member eventually suffer from both. This can then lead to the child experiencing multiple ACEs. In an interview of children whose mothers had co-occurring disorders, 67% reported witnessing domestic violence in the home, and in an interview of mothers with the co-occurring disorders, over 75% reported living below the poverty line. Thirty Eight Percent of the children also experienced residential instability, and their guardians were at a higher chance of incarceration. The children are also at a higher chance of neglect due to the substance abuse or debilitating mental health struggles (National Abandoned Infants Assistance Resource Center, 2012). As previously discussed, ACEs have a graded dose response. This means that the more ACEs a student experiences the more negative outcomes they are at risk of having (Thompson & Kaufman, 2019). Therefore, children who are raised in a household with parents who are experiencing both mental illness and addiction are at a higher chance of experiencing negative outcomes including struggling to build relationships, academic concerns, and behavioral dysregulation because their total ACE score has actually increased from 1 to 2. This does not take into consideration the fact that they could be experiencing other ACEs which would again increase their score.

Effects of the ACEs

Impaired Relationships

FCPS has begun to publish literature for their staff regarding the impacts that ACEs can have on students and what they may witness in the classroom. They cite that ACEs can lead to toxic stress which in turn, “Increases difficulty in making friends and maintaining relationships.” (FCPS, 2020). This can be especially detrimental to students as healthy and safe peer and teacher relationships are instrumental in a successful school experience (Murphey & Sacks, 2019). The effects of ACEs can impact a student ability to gain positive relationships in two different ways,

overall lack of attachment and behavioral impacts (Association for Training on Trauma and Attachment in Children, 2021; FCPS, 2020).

The Association for Training on Trauma and Attachment in Children (ATTACh) is a national group made up of a variety of stakeholders, such as parents, teachers, and psychologists. They have come together to highlight the concerns of attachment in education and provide tools for all communities and the families in them. They assist in helping people and families in developing healthy attachment. ATTACh highlights, “Attachment and Trauma disorders result in a wide range of symptoms which can include an inability to give or receive affection, distrust, destructive behavior, or an inability to empathize with others.” In personal interviews completed to support research. Two different participants both cited different reasons why they did not form strong relationships with their peers. C.L., a now 22-year-old adult stated that she did not form positive relationships with her peers due to the fact that she was never in a school setting long enough to establish them. Her parents' struggle with substance abuse caused extreme financial instability which caused her to move frequently. As a result, she was constantly changing schools and having to meet new peers (C.L., personal communication, January 30, 2021). S.A., a now 40-year-old adult cited that she had experienced abandonment by almost every adult in her life including her parents and the father figures who came into her life after her parents separated, as they all struggled with alcohol abuse. As a result, she was scared to establish relationships with peers because she did not want to experience the feelings of abandonment again. S.A. would purposely be more withdrawn from her peers in attempt to avoid relationships (S.A., personal communication, February 24, 2021).

FCPS cited in their literature that one of the effects of ACEs is, “lowers tolerance for stress, which can result in behaviors such as fighting, checking out, or defiance” (FCPS, 2020).

H.R., current third grade teacher and former special education teacher with the Pyramid Program, noted that as students progressed in age and became more aware of the behaviors of other children there became an obvious divide between students who demonstrated developmentally appropriate behaviors and those whose behaviors were outside the “norm”. She even stated that a former student of hers stated that he tried to befriend students with behaviors because he knew other students avoided them (H.R., personal communication, February 26, 2021). In education, this is extremely concerning as students especially in younger grades learn a lot through interactive play. If these relationships are hindered they are not learning and gaining the skills needed to develop appropriate behaviors such as team work, turning taking, appropriate socialization, and ways to handle a variety of feelings that arise during play (Gagnon & Nagle, 2004).

Stress Systems

Continued research has found that ACEs can “get under the skin” and affect an individual's biological processes (Thompson & Kaufman, 2019). One biological process that ACEs can affect is an individual's stress systems, ACEs can influence an individual’s “fight, flight, or freeze" senses, and specifically their ability to regain homeostasis. Homeostasis is defined as, the tendency toward a relatively stable equilibrium between interdependent elements, especially as maintained by physiological processes, after an excitable event (Simpson, 1989). If an individual’s guardian is suffering from mental illness, they may frequently go into flight mode because they see their guardian in a withdrawn state. This may present itself as a child demonstrating avoidance type behaviors as they are trying to remove themselves from a situation that they perceive as threatening. Oppositely, they may frequently go into fight mode because the mental illness, of their guardian, is more explosive. Fight mode may be presented as both

physical and verbal altercations. The child will try to present themselves in an intimidating manner in order to convince the perceived threat to let them alone. Students may also utilize freeze mode if they are frequently put in a position where fighting or flighting the trauma is not an option. This may present itself as a child appearing to shut down in the classroom and not responding to outside stimuli. If an individual is frequently put into situations that trigger them to go into a fight, flight, or freeze mode, especially during early developmental years as the brain is continuing to develop. Since these pathways have been established at a young age they may later be more easily triggered into one of the modes and then struggle to regain homeostasis after being triggered (Thompson & Kaufman, 2019).

A 1992 study found that individuals who have parents with serious mental health struggles demonstrated an increased amount of psychological adjustment difficulties when compared to students with non-distressed parents (Williams & Corrigan, 1992). This could be a result of experiencing this as a child and altering their stress system. The ACE of household substance abuse also raises concerns for the individual's biological processes. 37% of assault offenders were under the influence of alcohol at the time of the assault (Gordis, 1997). Therefore, children of individuals with substance abuse problems are likely to be exposed to frequent episodes of violence. This can negatively affect their stress system as they may frequently be in fight or flight mode. As previously discussed, this may alter their stress system by making it harder for their body to regain homeostasis after a triggering event. In a personal interview with T.D, a now 22 y/o who experienced the ACE of parental alcohol abuse, as well as neglect and violence as a result, he shared that after he sees his mother, he usually is angry and sometimes abuses alcohol for a few days after (T.D., personal communication, January 26, 2021). This could be a result of his stress system being altered. His mother brings negative

memories that trigger his stress system, his body then may struggle to regain homeostasis, resulting in his few days of anger. This inability to maintain or regain homeostasis can lead to disruptive behaviors and academic deficits which will impact a child's ability to access their education (Thompson & Kaufman, 2019).

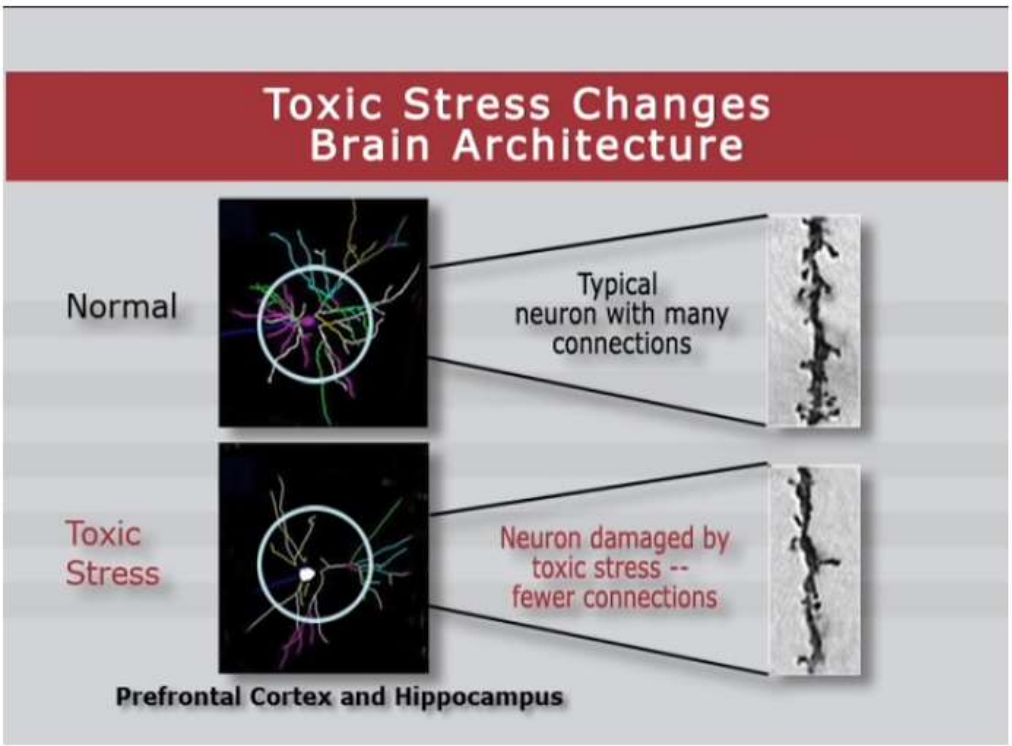
When considering T's situation, in terms of academics and behaviors, it raises concerns. Although T is now 22 years old and no longer in school, he began experiencing a lack of homeostasis, as a result of traumatic triggers, at a young age (T.D., personal communication, January 26, 2021). A disruption to T' fight or flight senses could have resulted in him losing multiple days of academics, because he would have not been fully present mentally or emotionally. This lack of homeostasis in the school environment can lead to behavioral outburst and the inability to focus and sustain academics. This is evident in speaking with SA, who stated that it was not until recently, and with the support of therapy, that she was able to demonstrate more regulated behaviors in both her at home and professional setting. These continued triggering events were preventing her from being able to manage her behavior and even as an adult were impacting her ability to maintain professionalism. This manifested itself by speaking disrespectfully to, and about, staff and sabotaging relationships. She stated that if other staff were to point this behavior out to her, she was not in a state of mind to hear or accept this feedback (S.A., personal communication, February 24, 2021). This same behavior has the ability to manifest itself in children. During a state of unbalanced homeostasis, children are more likely to not be receptive to new learning and behavioral redirection just as an adult is, as the part of the brain in charge of the fight, flight, or freeze senses has taken over, hindering the part of the brain in charge of learning (Thompson & Kaufman, 2019; First Book, 2019).

Brain Development

In the area of brain development, a concern is that the connections made in different parts of the brain are often experience dependent, and if an individual is experiencing trauma such as exposure to depression or frequent outbursts, the development of their brain could be altered (Thompson & Kaufman, 2019). The Center on the Developing Child at Harvard University has completed research on the effects that ACEs have on the brain. They saw that the neurons in the prefrontal cortex and hippocampus have been damaged and have far less connections than that of a brain who has not experienced such high levels of toxic stress. An image of the difference between these neurons can be seen in the figure below (Center on the Developing Child, Harvard University, 2011).

Figure H1:

Toxic Stress as experienced with ACEs changes the neurons in the brain



Note. This study shows that neurons in the prefrontal cortex and hippocampus are damaged by the toxic stress that ACEs cause.

The lack of connections in parts of the brain that control memory, planning, behavior, decision making, etc. can greatly affect a child's ability to learn new material at a rate that is typical for their developmental age (FCPS, 2021). It can also impact their overall maturity which can impact their ability to maintain positive peer relationships. These relationships are beneficial to their academic and social growth. The parts of the brain are also not as developed if the child has not had the same life experiences as their peers.

As previously stated, brain development often relies on experiences. If a guardian is not able to provide constructive experiences for a child during development due to their own mental illness, substance abuse issues, or both, the child's brain development may be altered or delayed (Thompson & Kaufman, 2019). According to the 2019 study conducted in Baltimore City,

> While a lot of brain development is hard-wired and under genetic control, much of brain development is "experience dependent." Experiences shape the connections that are made between different parts of the brain, and extreme stress can promote a cascade of biological reactions that can negatively impact the growth and development of key brain structures. ACEs have been associated with alterations in numerous brain regions implicated in the development of the broad range of negative outcomes associated with ACEs. (Thompson & Kaufman, 2019, p. 4)

This can present itself in a variety of formats including a lack of academic knowledge, behavioral deficits, and speech delays. These deficits can impact students' ability to maintain

relationships and access their academics. These skills are ones that are absolutely essential to students as they grow and mature into adults.

Strategies to Combat Effects of ACEs

Successful Practices

ACEs impact students in a variety of ways that will influence their ability to achieve academic success. This takes on a variety of formats, however, through personal interviews it became clear that a few techniques were proven more effective than others when implemented in the school setting. These strategies include,

1. Starting with yourself.
2. Education on trauma informed practices for educators.
3. A team approach.
4. Understanding the why behind behaviors.
5. Building positive and trusting relationships
6. Developing the positive attributes, the student already possesses.

In order for this to be successful the strategies listed above should be completed in that sequence. This will allow teachers to receive the support they need first in order to effectively support students. Schools have the opportunity to implement these practices and support students who have been impacted by ACEs.

Start with Yourself

S.A., a current FCPS employee staff member has experienced numerous ACEs including physical and sexual abuse, a household member with mental illness, a household member with

substance abuse problem, and emotional neglect. As a result, she states that prior to her participating in therapy and receiving other supports, she was not able to connect with her students in an effective and productive manner. Since working on her own trauma, she states she has been able to form deeper relationships with her students and provide them with the support that they need (S.A., personal communication, February 24, 2021). According to, Understanding and Promoting Resilience in the Context of Adverse Childhood Experiences a teacher must, "(recognize) their own distress, (avoid) impulsive responses, and (take) a moment or two before respond(ing)" (Sciaraffa et al., 2017). SA was able to highlight this need for a teacher as she was open with the fact that she was very impulsive and would frequently not act in a professional manner in front of colleagues and students. This damaged relationships with students and staff impacted her ability to assist students with overcoming their own ACEs (S.A., personal communication, February 24, 2021). During an interview H.M., a behavioral specialist for FCPS, she stated,

> I also think it is important as a provider, to children with trauma, adults need to be aware of any trauma they may have experienced and how their personal history/experiences may alter their ability to provide the best care in times of stress. It is also important to note that we all have precipitating factors that we bring into situations and be able to identify ways that we personally regulate our own stress (H.M., personal communication, March 23, 2021).

H.R. has struggled with her own anxiety and depression and can recognize how prior to therapy and learning coping mechanisms she was not as effective in building relationships and supporting students.

It is important that teachers identify their personal stressors and coping mechanisms prior to entering a situation with a student who is experiencing any form of dysregulation. This means that teachers know their triggers (language, a gesture, proximity, etc.) and have developed coping mechanisms (grounding, breathing techniques, time away, etc.). Shawn Nealy-Oparah and Tovi C. Scruggs-Hussein state, “teachers must process (their) own healing of trauma, so that (they) are not so easily trig-gered..., re-creating a cycle of trig-gers that results in a poor culture-climate of the school community” (Nealy-Oparah & Scruggs-Hussein, 2018). This article highlights the fact that the trauma from ACEs can become a cycle that stable positive adult remodels such as teachers have the power to break.

Education on Trauma Informed Practices

In order to assist teachers in breaking the cycle of trauma and triggering behaviors it is essential that they receive appropriate initial training and continued training on ACEs, behaviors associated with ACEs, supports/interventions, and responses to behaviors. This was highlighted in an interview with a current student in their teacher preparation program who experienced ACEs during childhood. M.C. stated, “Taking classes on trauma informed teaching and learning more about mental illnesses is a great first step. Understanding how behaviors are/can be formed by the trauma/mental illness at home would often change implementation of lessons and classroom management.” (M.C., personal communication, January 28, 2021). M.C. realizes that these students need increased support, however, many teacher preparation programs and school districts do not provide additional training beyond basic classroom management. It is essential that an “increase knowledge and awareness among school personnel of the existence of these students and share the behavioral indicators and discuss ways to help the students” as stated in an Educator's Guide to Children Affected by Drug Abuse (Davies, 2010). This communication can

be clearly communicated in the form of a Behavioral Intervention Plan (BIP). This plan outlines the student's behaviors and ways to assist them. It is shared with all school staff that work with the student in order to assist them in addressing the student in an effective manner. School teams must meet frequently to review BIPs, discuss new student concerns, and review the effectiveness of the interventions that are in place. During these meetings it may be likely to become apparent that staff require additional training on students, the effects of their ACEs, and interventions/supports available to them.

Team Approach

In a world of education, each student needs a team of stakeholders invested in their education. In an interview with H.M., a behavioral specialist for FCPS, she stated that this team could include,

> mental health coordinator for FCPS, behavior intervention team coordinator, sometimes the supervisor of student services and psychology, school counselors, school psychologists, administration, behavior support, instructional and special education assistants, outside mental health professionals, classroom teachers, and special educators. It's also important to make sure this occurs in conjunction with the family and other outside organizations that may be relevant to the specific student (H.M., personal communication, March 23, 2021).

The need for a team is heightened when a student has experienced ACEs, as they require specific interventions that sometimes require a specially trained individual to address. The book, Educating Students with Severe and Multiple Disabilities: A Collaborative Approach, Fifth Edition highlights for reasons for a collaborative approach:

1. Coordinated services: agreeing on student centered supports that utilize the expertise of each stakeholder
2. Services are coordinated to be delivered in an effective manner that maximizes the time spent with the student
3. All stakeholders work to ensure goals are meaningful and meant
4. Allows for the delivery of a coordinated and comprehensive approach (Orelove et al., 2017)

The previously mentioned team has a wide range of skills and abilities that would allow them to achieve the four goals listed above. In an interview with LE he stated,

> Each person has different areas of training and skills they can bring to the table. Some people are more interested or comfortable with helping students with various needs. It is also helpful to be able to bounce ideas off one another (L.E., personal communication, March 23, 2021).

This is important in all aspects of supporting students who have experienced ACEs including but not limited to, the Behavioral Intervention Plan (BIP) writing process, Individualized Writing Plan (IEP) writing plans, implementation of these plans, and supporting them in times of dysregulation. When students are in a state of emotional dysregulation it can be extremely difficult for the staff involved with them to regulate their own personal emotions and think clearly about the situation. In order to assist staff with this situation it requires a team that operates seamlessly with one another and has developed rapport with each other. In an interview with H.R., she highlights the importance of trusting your group enough to share your triggers, emotional stress, and calming strategies. She referenced a time in which she was involved with a student who was experiencing dysregulation and this child pulled her to the ground by her hair.

H.R. admits this is a trigger for her and the team supporting the student during this situation was aware of this. They were able to assist the student while she took the time she needed to regroup from the situation (H.R., personal communication, February 26, 2021). This highlighted the importance of having a team that supports and knows each other while supporting students who have experienced ACEs.

Understanding the Why Behind Behaviors

Students who experience ACEs may demonstrate their frustrations and concerns in a variety of ways. These students may exhibit behaviors that manifest themselves in behavioral dysregulation such as behavioral outburst, inattention, class disruptions, etc. (FCPS, 2021). HM shared some ways that she has witnessed students with ACEs demonstrate behaviors in the school setting,

> In a variety of ways that impact their ability to access their educational program and negatively impact their ability to form and maintain relationships with peers and staff. I have also found that some students that have multiple ACEs also have other factors that contribute to their ability to effectively navigate and participate in their school environment (H.M., personal communication, March 23, 2021).

L.E. stated that he has witnessed, “Difficulties with emotional regulation, more easily reactive to minor situations in their environment, difficulties with parent engagement” (L.E., personal communication, March 23, 2021). While these behaviors are extremely disruptive and understandably frustrating it is imperative that staff working with them understand that the child is not in control of the behaviors and that behaviors they are demonstrating are largely related to the underdeveloped parts of their brain. A child who has experienced ACEs has the potential to

have underdeveloped sections of the brain as compared to their same age peers (Center on the Developing Child, 2011). See Figure H1. It is essential that the team around the child work to develop a plan that keeps any known information about the ACEs the child experienced, the behaviors they are demonstrating, and known coping mechanisms in mind.

Building Positive and Trusting Relationships

Throughout ACE intervention, there is an overarching theme of, developing a positive relationship with the individual who has experienced childhood adversities. Educators and school staff are in an opportune position to develop these relationships, as they are with the students on such a frequent basis. David Murphey and Vanessa Sacks outlined the importance of this,

> One mechanism responsible for the effects of ACEs—toxic levels of stress—can be substantially buffered by stable and supportive relationships with caregivers. Schools and educators can also play a critical role by promoting these kinds of caring relationships, as well as social and emotional skills, that support healthy youth development for all students…" (Murphey & Sacks, 2019).

As previously stated, brain development is heavily experience dependent, and those early experiences usually come from the home environment. (Thompson & Kaufman, 2019). If household members are struggling from substance abuse and/or poor mental health, these early experiences, with critical communication and problem solving, may be hindered. C.K., is a former special educator, and now adoptive mother of two boys whose biological parents struggled with mental illness and drug addiction. She shared the advice, "Kids today are exposed to so much more than we could imagine. Never underestimate what they know, what they have experienced or what they have seen. Listen to them, get to know them (C.K., personal

communication, January 27, 2021). By an educator or school staff working to establish that positive relationship, they are serving as a model for open communication, problem solving, and forming healthy relationships.

Modeling open communication can be critical in identifying children who are experiencing adverse situations. In the Educator's Guide to Children Affected by Drug Abuse, the author explains that “silence regarding the "family secret" is instilled in these students” (Davies, 2010). If a student has been conditioned to not speak about a negative situation at home, having a staff member that they trust and know how to communicate with, can increase the chances of them sharing what is going on in the home environment. This then better enables the staff to provide effective intervention. Previously discussed CL, whose parents struggled with substance abuse and poor mental health, highlighted this from a personal perspective. “You never know what is going on in a person's life, no matter what age. Show trust, love and that you’re caring so students would want to come talk to you no matter what is happening” (C.L., personal communication, January 30, 2021).

Developing the Positive Attributes, the Student Already Possess

Building Through Read Alouds.

In the elementary school level there are a variety of different programs, as most school districts utilize some form of social-emotional learning curriculum. The intervention of read-alouds assists in building that necessary classroom community, and then grows the students’ abilities to express emotions openly and appropriately. A read aloud is an instructional strategy where an adult reads a story out loud to the students. Throughout the story the teacher may be questioning the students to encourage engagement, as well as utilize follow-up activities that relate to the story. With intervention driven read-alouds, the texts are specifically chosen with the

students' adversities in mind to "provide catharsis for students as well as deep connections with literature and with the classroom community" but to also include positive examples and models of resiliency strategies through the characters (Johnson, 2018, p. 3-4). The author, Julie Johnson, encourages developing oracy, or academic language, to help students "bridge their background knowledge with reading."

There are many examples of appropriate read aloud text that assist in building upon the positive attributes that students possess. First Book's Trauma Toolkits, provides a whole collection of "Healthy Feelings and Relationships" literature with resources for the educators to facilitate productive conversations. The We Do Listen Foundation also provides an entire series of books that focus on a rabbit named Howard B. Wigglebottom and how he navigates many everyday experiences that most students encounter. One particular book is entitled *Howard B. Wigglebottom Learns to Listen* and assists the reader in learning listening skills; including turn taking when speaking, active listening, everyone gets a turn to be right in conversation, and apologizing. The We Do Listen foundation provides an entire lesson that can be utilized along with this story to discuss these skills and ways in which students can implement them in the classroom (We Do Listen). This book could be utilized with students who have experienced trauma, to allow them to learn skills they may not observe at home and to learn healthy communication strategies that they may utilize to talk about their trauma. These stories will build upon capacities they may have minimal understanding of and allow them to utilize them in a productive manner.

Building on Individual Capacities.

The first protective system is individual capacities, and consists of self-regulation, expression of emotions, and self-assertion (Sciaraffa et al., 2017). Self-regulation can be defined

as, “the fact of something such as an organization regulating itself without intervention from external bodies.” (Simpson, 1989). Students who have experienced ACEs struggle to recognize when they are feeling negative emotions and act in a positive way to manage them. This can lead to escalated situations, that can then lead to more negative events. Development is often experience dependent, and these students are not having examples of positive self-regulation, in their home environment. Suggested steps to build students’ self-regulation starts with recognizing their distress in a timely and sensitive manner and then modeling emotional regulation (Sciaraffa et al., 2017). The goal is to deescalate the situation as quickly as possible, while teaching students tools they can use on their own. For early childhood students, this may be rocking the child. For upper elementary school students this may be removing them from the situation and talking with them. This is where it is very important for educators to be able to regulate their own emotions.

The next step is to “provide a predictable, dependable schedule of routines” (Sciaraffa et al., 2017, p. 346). This allows the student to plan ahead and control their emotions, it may take them longer to control their emotions as they are learning skills. Smooth transitions are also of importance, as transitions are difficult for many students if they do not know what is next, or if they do not like the next activity or subject.

The final suggestion for building self-regulation is to “take the child’s emotions seriously” (Sciaraffa et al., 2017, p. 347). Too often, students who are experiencing ACEs are labeled as the “bad” kids. If educators do not take their emotions seriously, the other steps are negated and more damage is done rather than positive intervention.

Expression of emotions is the second area of individual capacities (Sciaraffa et al., 2017). Students who have experienced adversity often struggle with expressing the emotions

they are feeling, positive or negative. In an interview with K.B., she stated that she often yelled or talked-back to her mother because she had not been taught an appropriate outlet for her frustrations (K. B., personal communication, January 27, 2021). When assisting students with positively growing this area, the educator must talk with students about their feelings, but in a way that they will respond to. Some students may respond to a reminding glance, where others who are learning these skills may need more step-by-step discussion to help them work through their emotions.

The final area of individual capacities is self-assertion (Sciaraffa et al., 2017). Self-assertion is an indication that the individual can sense their own emotions, decide what is best for them in that moment, and then respectfully communicate their decisions. This will be the culmination of all the skills educators teach the students for their individual capacities. In order to facilitate this in the classroom a classroom teacher can implement the following strategies:

1) Controlled Choices: Allow the students to have choice over an assignment, activity, rewards, etc.
2) Set up an accessible environment: Set up an environment that is accessible to students. This includes considering height requirements, disability awareness, and accessibility to needed materials.
3) Control your emotions: This is similar to the starting with yourself approach. Allowing students to assert themselves can be challenging to teachers as it can come across as them being defiant. It is imperative that teachers know their own level of comfortability with this and facilitate self-assertion without being combative with the student (Sciaraffa et al., 2017).

Facilitating students in building upon their individual capacities can also be facilitated by utilizing social emotional programs.

PATHS Program.

HM, a current employee for FCPS, stated that FCPS had adopted the PATHS program and it is currently being utilized to support students who have experienced ACES (H.R., personal communication, February 26, 2021). PATHS, or Promoting Alternative Thinking Strategies, is a curriculum that utilizes a variety of activities to promote healthy resiliency, while using the classroom community. According to the PATHS website, "At PATHS, we provide evidence-based social and emotional learning (SEL) programs that cultivate a safer and more positive learning environment, where both students and teachers can thrive" (PATHS, 2021). This program focuses on 5 categories as outlined on their website,

- Self-Awareness is the ability to understand and manage your own feelings and to know your strengths and weaknesses.
- Self-Management is the ability to manage your behavior and impulses, to have integrity, and to act according to your values.
- Social Awareness is the ability to understand and have empathy for others.
- Relationship Management is knowing how to work with others and get along effectively.
- Responsible Decision Making is the ability to make good decisions and know how to problem solve effectively both alone and in groups. (PATHS, 2020)

The program starts with the basic skills of sharing and settling disagreements, but grows into healthy relationships, and self-control. It also fosters the classroom community, and self-worth through the PATHS kid of the week program. Each week a new student is chosen at random and

they become the PATHS kid of the week. The classmates then have to give compliments, which they were taught how to do at the beginning of the program. They are taught how to give respectful, and meaningful compliments that go further than outward appearance. The teacher then has to give compliments, and the chosen student has to give them self at least one compliment. The paper is then sent home and the families are encouraged to give the students compliments as well. Both programs promote resiliency proactively and reactively, as it gives students tools to work through various situations that they may already be facing, or could face.

In an interview with H.R., she stated that she has seen growth with elementary students especially in the area of expressing their emotions (H.R., personal communication, February 26, 2021). This is further supported by a study completed by Conduct Problems Prevention Research Group who found the PATHs program to be an effective tool in supporting students in a variety of areas. The article stated, "The results of this universal-intervention model at the end of third grade provide evidence of the model's effectiveness both for promoting social competence and for reducing aggressive behavior problems." (Conduct Problems Prevention Research Group, 2010, p. 164). In order to reach this conclusion, they not only observed students over a three-year period but also asked students and teachers to complete surveys. These surveys revealed that students were applying what they were learning in the PATHs program and it was assisting them by improving, "classroom behavior and teacher perceptions of more effective academic engagement, including increased self-control and on-task behavior." (Conduct Problems Prevention Research Group, 2010, p. 164). Students who participated in the PATHs program, with consistency, were able to utilize the skills to assist in negating negative behaviors and improving overall academic success.

Conclusion

ACEs have the potential to cause lifelong negative impacts on the person who has experienced. These effects include but are not limited to:

1. Health Issues
    a. Obesity
    b. Diabetes
    c. Depressions
    d. Suicide Attempts
2. Behavior
    a. Smoking
    b. Alcoholism
    c. Drug Use
3. Graduation Rates
4. Academic Achievement
5. Lost Time for Work (CDC, 2020)

These effects have the potential to impact the classroom by causing impaired relationships, additional pressure on the stress system, and impacted brain development. However, there are research-based interventions that can support and help to negate the effects of these ACEs.

Through personal interviews it became apparent that the following research validated approaches should be implemented when working with students who have experienced ACEs:

1. Starting with Yourself
2. Education on Trauma Informed Practices
3. A Team Approach
4. Understanding the Why Behind Behaviors

5. Building Positive and Trusting Relationships
6. Developing the positive attributes, the student already possesses

Therefore, all stakeholders involved in a child's education should work in a collaborative manner to ensure implementation of these strategies.

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