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The Effects of ACEs Score on Academic Achievement

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Abstract

The researchers conducted a qualitative study using the phenomenological approach to understand the way Adverse Childhood Experiences (ACE) influence a college student's academic achievement. Data was collected through an online survey in which 77 students responded. Thereafter, researchers interviewed five college students who surveyed for an ACE score of four or higher. From the analysis, 6 themes related to ACE score and academic achievement were found: 1) Lack of Academic Motivation (Focus, Attendance, Work Quality, and Prioritizing), 2) Poor Time Management, 3) Negative Perception of Self, 4) See the world differently, 5) Empathetic Learners, 6) Career Choices. The researchers concluded with a discussion on how to influence a student's achievement in the classroom as well as programs and resources missing from the education system that are yet to be found.

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The Effects of ACEs Score on Academic Achievement

Introduction

Abuse, neglect, and dysfunctional homes. These are experiences that can take place in an adolescent's life. These events greatly impact their mental, emotional, physical, and spiritual health. These experiences can be better understood as ACEs or adverse childhood experiences. According to the Centers for Disease Control and Prevention, "ACEs are potentially traumatic events that occur in childhood." (CDC, 2019). The higher an ACE score a person has, the greater amount of trauma experiences he or she has gone through. ACEs have the power to alter the way the brain develops and how someone responds to stress. Because of this, we looked at the connection between ACE scores and academic success (or setback) for college students. The purpose of this phenomenological study was to discover the effects of a person's ACEs (adverse childhood experiences) score for college students in the academic setting. In research, a person's ACE score was defined by three subcategories of abuse, neglect, and household dysfunction and was measured through an electronic survey.

Intelligence has become a very common term when discussing a person's academic achievement. General intelligence is explained as, "a person's overall capacity for adaption through effective cognition and information processing" (Roberts, R. D. 2001). In general, intelligence can be thought of as a person's mental ability. These abilities allow us to be highly complex, allowing us competence in understanding, reasoning, problem solving, and learning (Roberts, R. D. 2001). Intelligence has become an increasingly broad word as psychologists have created new realms of intelligence such as musical, spatial, intrapersonal, and emotional intelligence. Each of these realms of intelligence gives people different perspectives and

different strengths in life and allows for academic achievement. Predicting performance in the classroom relies on emotional facilitation of thought.

Emotional facilitation of thought is defined as, “The use of emotions and emotional information as input or guidance in cognitive tasks or decisions” (MacCann, C. 2020). Emotional facilitation uses a person’s emotions as motivation or the lack of motivation to guide a person in cognitive tasks. There are two key elements used to explain this theory, “(a) using existing emotions to guide task selection or approaches to tasks, and (b) generating new emotions to aid performance on a specific task” (MacCann, C. 2020). If a person can use their existing emotions, they can use them to guide processes in problem solving in two ways. These are described by MacCann, “First, emotions can direct attention to critical information through the action tendencies associated with each emotion. Second, tasks can be selected to take advantage of a mood state that might help performance” (MacCann, C. 2020). Emotional facilitation involves emotions to match the task at hand, meaning upregulation requires a positive emotion and downregulation requires negative emotions. Trauma makes it difficult for one to consistently upregulate and use positive emotions to guide problem solving in an academic setting.

A person is likely to encounter trauma at some point in their life. One out of every six individuals have experienced four or more types of ACEs (CDC, 2109). When a child experiences trauma at a young age many changes can happen during brain development. Researchers have found that after extreme trauma has occurred, the following changed in brain development: Thalamus has trouble filtering information, the amygdala is enhanced to sensing danger, and the neurons in the hippocampus and prefrontal cortex shrink and die off (Van Peursum, 2021). Published research, exploring the relationship between the level of adverse childhood experiences and academic risk, discovered that students who have a higher ACE score

simultaneously are at risk for poor school attendance, behavioral issues, and failure to meet grade-level standards in elementary (Blodgett, 2018).

The ACEs test investigates ten types of childhood trauma that consistently affect a person's life. The test includes five forms of abuse which include the following: physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect (Take the ACES quiz, 2021). The test is a guideline for discovering underlying troubles that may be influencing a person, specifically from their childhood.

From published research, we gathered a wide variety of information that surrounded the topic of trauma and its impact on mental and physical health. Research suggested that the higher the child's ACEs score is, the more likely he or she is to miss school, have behavioral issues, and fail to meet expected academic standards in math, reading, and writing (Blodgett, 2018). More specifically, we looked at the population of college students. Today, there are 17.5 million undergraduate students enrolled in American colleges, 26,500 of whom are Iowans (Bustamante, 2019). Additionally, research indicated overall factors that influenced academic performance beyond the ACES score; factors such as being a first-generation college student in one's family (Terrell, 2016).

The impact of ACES goes beyond the classroom as research has focused on the cause-and-effect relationship between one's ACE score and chronic illness or conditions (Bethell et al., 2014). Chronic means a persistent illness that eventually could lead to death. The CDC reports that "At least 5 of the top 10 leading causes of death are associated with ACEs" (CDC, 2019). Research indicates previous institutionally promoted trauma informed programs to help adolescents who are characterized by poverty and low student achievement. These programs, instituted in elementaries, middle schools, and high schools have been able to address the impact

of trauma and identify potentially helpful paths for recovery for academically struggling students (Post et al., 2020).

Researchers found deficiencies when looking into published research that investigates this phenomenon. First, prior research failed to investigate the impact of a person's ACE score directly on academic success. Many studies claim that mental health affects students' academic success or that ACEs affects mental health, but a direct connection has not been made between academic performance and ACE's score. There is a link between the studies, but the association does not mean causation. Research produced by Karatekin, Windle, Kelifa, and Kivlighan discovered the use of ACE scores to identify college students at risk for mental problems; however, a direct connection between mental health problems to academic success or failure was not highlighted. Outcomes from these studies have the possibility of affecting academic success but may not be demonstrated until a full study is done investigating the effects of ACEs on academic success.

An additional deficiency we discovered was the lack of research regarding college-aged programs created to help trauma-inflicted students. Research has been conducted on elementary through high school aged students who have the opportunity to take part in a teacher-initiated trauma therapy program. Therapy programs have demonstrated success in improving academic performance in adolescent's lives. The same cannot be said about college-level therapy programs.

The study's target audience was college students who are attending Northwestern College as full-time students who score a four or higher on the ACEs survey. Targeting this audience created a connection between an ACE score and the academic performance of a college student. Additionally, this study helped students to better understand how their background has shaped

their current performance in academics as well as how they handle stress. College is an environment that exacerbates stress. Trauma, in and of itself, induces stress. In addition, trauma impacts a student's ability to cope with stress. If a student is informed about how their trauma influences their academic performance, they can learn possible strategies to combat academic failure.

Future studies can use the results from this study to influence future teaching, studying, and application techniques in the classroom. Possible findings may provide answers for better teacher-initiated trauma therapy programs. With an increasing attendance in post-secondary institutions, it is necessary to research and discover key factors that influence academic performance and success. Discovering how past trauma currently affects a student's academic performance can allow for programs that may create pathways to help a student learn new strategies to improve academic success.

Methods

Rationale for Conducting Qualitative Design

In previous research, researchers found that stress has a significant impact on the way that students perform in an academic setting. The researchers chose to conduct a qualitative study on the impact of adverse childhood experiences (ACEs) on academic performance in the classroom, specifically on Northwestern College's campus. The researchers were looking to learn more about students' experiences in the classroom and their identity as a student regarding their adverse childhood experiences. Additionally, researchers were looking to learn how a score of four or above on the ACEs survey strengthened and/or hurt academic performance.

The demand of academics is often associated with stress. In general, stress can promote growth and can be healthy for the brain; however, an excess amount of stress is toxic for the

body and a person's health. According to published research, "ACEs have an effect on the developing brain" because "toxic stress negatively impacts parts of the brain associated with learning and memory." During the developmental years, children rely on caregivers for safety and responsiveness in order to help maintain a normal and healthy levels of cortisol (a stress hormone).

Adverse childhood experiences cause children to have the opposite of a healthy and necessary environment. In turn, children learn to see the world and their surrounding environments as dangerous. To counteract fear and danger our bodies produce too much of our stress hormones (Minnesota Dept. of Health, 2019). Therefore, researchers wanted to identify how ACEs have impacted a student's response to stress associated with academics and his or her performance.

Qualitative research was the chosen approach because with this type of research individuals, "Study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Creswell, 2013, p. 70). Researchers studied college students in their natural setting to make sense of the phenomena of adverse childhood experiences to better understand the meaning that students make out of their past and how that affects their stress management and academic performance.

Type of Qualitative Research Design

Phenomenology was used to develop common themes that occur between college-aged students and the ability for an ACE score to affect one's academic achievement. This study observed and heard the stories of five college students that studied at a small liberal art college. Participants were encouraged to tell their own narratives in hopes to uncover discrepancies that may cause differences in academic achievement.

Participants were first asked to take part in a test that assessed for adverse childhood experiences. Once participants took the test and chose to continue with the study, they were asked general questions about their life to give the interviewer an initial understanding. After general questions were discussed, sub-questions, that were open-ended, gather more data that help to contribute to the understanding of the main questions.

Sampling Method

The researchers chose to send out the initial ACEs survey to the department heads at Northwestern College. It was the department head's choice to send the survey to all students in their department. Students receiving this survey from their department head had to be a full-time student in Northwestern College. Seventy-seven students participated in the ACE survey. Students were motivated to participate in the preliminary survey via a promotional \$10.00 gift card give-away to Townsquare Coffee Shop. This is known as an incentive. Incentives encouraged students to participate in order to provide researchers with sufficient data.

Researchers used the technique of a census study which meant that the survey was made available to every member of the population (Campus Lab, 2020). Because the population was small enough, it was possible for researchers to include each individual in the survey. However, opening the survey up to the entire population did not ensure that each student completed the survey. The population had a week's time to complete the survey. Results were sent back to researchers and researchers specifically identified participants who scored a four or higher on the ACEs questionnaire. Those with a four or higher were contacted to set up a follow up interview with one of the researchers.

To gather the names of those who qualified for the follow up interview, researchers used the sampling strategy of maximum variation in order to gather individuals to interview.

According to Creswell (2013), “This approach consists of determining in advance some criteria that differentiate the sites or participants and then selecting sites or participants that are quite different on the criteria” (p. 510). The criteria that were established in advance was having an ACEs score of four or higher. The participants who had a four or higher were differentiated from those who did not. Researchers then selected those participants who demonstrated qualifying differences in the criteria.

To follow up on the promotional incentive, researchers chose to use random purposeful sampling via a random name generator. The random name generator selected one out of the seventy-seven number of initial participants to receive the \$10 Townsquare gift card.

Data Collection Strategies

The official, online Adverse Childhood Experiences survey was sent to the Northwestern College department heads. Researchers requested that each department sent out the survey to all students within their department. The researchers' intentions were for multiple students to take the survey once it was received. A total of 77 students completed the 10-item questionnaire. The survey remained open for one week. The follow-up interviews, conducted with participants who scored a four or higher, took the researchers an addition span of five days to fully complete. In this manner, the form of data collection was primarily an interview type. Interviews contained both closed and open-ended question and had a primary, focus group (individuals with a four or higher score).

Out of the 77 participants, seven students met the four or higher score requirement to qualify for a follow-up interview. Participants were made aware of the potential of the follow-up interview in the informed consent attachment included before the initial ACEs survey. Once the survey was closed, researchers tallied how many participants had a score of four or higher. Those

seven participants were contacted via email explaining their score as well as the hope to set up an interview time and place. By interviewing these participants, researchers gathered enough data to begin to see a trend for the phenomenological criteria. Additionally, researchers understood that conducting interviews, “takes you into the participants world, at least as far as they can or choose to verbally relate what is in their mind” (p. ?, Ch. 7). Additionally, researchers discovered that deeper meanings were “developed through the dialogue of long, in-depth interviews” as the researcher and the participants worked together to “‘co-construct’ meaning” (p. ? Ch. 7).

Out of the seven participants, six followed up for an interview. One of the six missed their interview time and did not email researchers back about setting up another time. A total of five interviews were conducted. Each participant was asked which method of interview conduction they would prefer, an in-person interview over via Zoom. All participants preferred an interview over Zoom. When on Zoom, the interviewer asked the participant if they perceived the environment as safe and if they believed a confidential interview could be conducted in the space.

If yes, participants were informed that their real names would not be used in the publication of the research and that a pseudo name would be assigned to them and their data. All participants were interviewed once and were recorded so information could be reviewed after. Participant 1’s interview lasted for 16 minutes and included all of the primary questions with a few sub-questions. Participant 2’s interview lasted for 28 minutes and contained many more sub-questions than the first interview but covered the same primary questions. Participant 3’s interview lasted 45 minutes and contained the common primary questions in addition to a wide variety of sub-questions all relating to the participants major and current working condition. Participant 4’s interview took 34 minutes, and the primary questions were covered while the

majority of the time was spent on sub-questions. Participant 5's interview lasted 17 minutes and only primary questions were discussed; their answers were fairly limited and to the point. All questions that were asked during the interview process are in appendix D.

Use of Protocols

The researchers started the interview with going over the informed consent with the participant. A protocol sheet for the interview was created with the sub questions based off the ACEs survey questions. For purposes of confidentiality each participant was given a pseudo name that the researchers used during the interview section and for all transcriptions that followed. Since the researchers conducted their own interviews, the sub questions ensured that the same topic questions were asked. A broad question asked was:

- The first question that was asked with the ACEs survey was:

Before your 18th birthday, 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?

A broad question that was asked to only the participants with a score of four or higher during the interview portion was:

- What does an ACE score mean you as a college student?

The sub questions that were asked during the one-on-one interview portion were derived from the 10-item questionnaire sent out to all students. Four of the sub questions that were discussed in the interview are as follows:

- What was your ACE score? In one sentence, what does the Adverse Childhood Experiences (ACEs) score you received mean to you?

- How have Adverse Childhood Experiences influenced or affected your ability to function as a student in the past, and how might it be affecting your ability to function now as a college student?
- How have your Adverse Childhood Experiences affected your perception of yourself?
- Adverse Childhood Experiences may have affected your academic performance over time.
 - In what way has your Adverse Childhood Experiences improved (strengthened) your academic performance (for example, in your grades or test taking)?
 - In what way has your Adverse Childhood Experiences worsened (weakened) your academic performance (for example, in your grades or test taking)?

The rest of the sub questions can be found in appendix E for further detail. The purpose of the sub questions was to give the researchers a better understanding of how the participants perceived their ACEs as well as the impact their ACEs have on college academics. It was intended that the researchers would receive the information for the study based on participants' experiences. Each interview was recorded on Zoom and then transcribed.

Data Analysis Strategies

Verification Procedures Used

Researchers considered verification to promote and evaluate accuracy. One-way researchers were able to validate data gather was through triangulation. Triangulation was conducted when researchers made “Use of multiple and different sources, methods, investigators, and theories [to] provide corroborating evidence” (p. 251). The researchers enacted triangulation with the use of the Kaiser ACE Survey published by the CDC, the ACEs score survey sent out to the college population, and the conducted follow-up interview with students who scored a four

our higher. All three of these sources and methods of gathering data allowed for intersection of information to further the study. Specifically, this validation strategy was method triangulation. Researchers were able to consider “the consistency of findings generated by different data collections” (p. 718, Ch. 10). Incorporating only one point of these sources or methods would not have offered a sufficient amount of evidence to support this research study; however, the combination of all three items validated the data and allowed researchers to conduct and survey accurate data.

Additionally, researchers validated their data during the corroboration of evidence via the review of transcriptions. This specific validation strategy was considered analysis triangulation because the researchers were the “multiple analysts” that “reviewed findings” (p. 729 Ch. 10). Transcriptions were created from the data collected during the follow-up, one-on-one interviews with participants that scored a four or higher. Researchers read through the written transcriptions independently and marked consistent concepts and themes that were found throughout each of the participant’s transcriptions. Following this process, the researchers met and analyzed what themes were recurrent enough, demonstrating prevalence, importance, and priority. Analyzing and comparing the transcriptions together led the researchers to finally create six themes for the overall research.

Ethical Considerations

The researchers were aware and sensitive to the importance of ethics throughout the entirety of the phenomenological research study. The first consideration of ethics with this phenomenological research study was in obtaining permission from the Institutional Review Board. The study needed to be approved prior to the researchers sending out the initial ACEs survey to the different departments. Caution was taken due to the intensity of the topic of adverse

childhood experiences. When asking questions about adverse childhood experiences, it is possible that past emotional trauma can resurface. With this in mind, and once the IRB committee approved the study, researchers ensured that the survey included both an initial consent form and a debrief form. The consent form explained the nature of the survey, how the data was going to be utilized, as well as the optional follow-up interview that would take place if a four or higher was scored. The initial survey included a debrief form following the 10 ACEs questions. The debrief form offered verified services and resources for participants to contact if any emotional trauma resurfaced.

To gather further data, researchers conducted a follow up, one-on-one interview with participants who reported a four or higher Adverse childhood experiences score via the survey. Confidentiality was important during this entire process. Researchers had to get in contact with participants for a follow up interview via email. To maintain confidentiality, researchers contact participants privately with no other participants on the email chain. Researchers kept participants names anonymous and assigned pseudo-names to each of the participants that were interviewed. The pseudo-names were the only form of identification that was used in the publication of the results.

Just like the initial survey, the researchers offered an informed consent to the interviewee. The researcher explained that the participant could end the interview at any point in time. The researcher shared the interview questions with the interviewee before moving on. Once the interviewee gave verbal consent the researcher ensured that the participant felt safe and comfortable within the interview location. When both consent and safety were verified, the interview commenced.

During the interviews, researchers were each located in a locked and secured room. In the secured locations, no conversations could be heard outside of the rooms. Once the interviews were performed, researchers kept all recordings, transcriptions, and other data documents in a private digital folder, secured on personal laptops that were each required password authentication for entry. Once the interviews were fully transcribed and secured, all recordings were destroyed.

Lastly, at the end of the follow-up interview, researchers asked participant if he or she would like the results to be communicated to them. The answers varied between participants, but autonomy was verified by giving the option.

Results

After collecting data from the phenomenological study, researchers used the online survey and interview information to create themes. The researchers were able to identify six main themes from statements during the interview process. The themes were 1) Lack of Academic Motivation (Focus, Attendance, Work Quality, and Prioritizing), 2) Poor Time Management, 3) Negative Perception of Self, 4) See the World Differently, 5) Empathetic Learners, 6) Career Choices. After creating the six themes, researchers were able to understand how participants experienced the phenomenon. The following participants were interviewed over zoom: Luke, Dean, Loreli, Jessie, and Rory. There were seven participants in the initial ACE survey that had a score of four or higher; only five participants were interviewed; themes were gathered from their statements.

The official CDC-Kaiser ACE study was conducted from 1995-1997. The data collection included 17,337 participants who were receiving physical exams in California (Centers for Disease Control and Prevention, 2021). When comparing the survey results with the national

ACEs data, it demonstrates similar results. First, the demographics were comparable to the official survey. In the official survey 54.0% of the participants were female and 46.0% were male. In the researcher's survey, 63.7% of the participants were female and 36.2% were male. Both surveys reported a majority of female participation.

The official survey reported 74.8% White participants, 4.5% Black, 7.2% Asian/Pacific Islander, 2.3% other, and 11.2% Hispanic. The researchers reported similar race percentages. The majority of the participants were White at 89.8%, other at .04%, Asian/Pacific Islander at .02%, and White plus other at .02% as well. The results gathered from the survey were based on 69 participants not the total number of 77. Eight participants chose to leave the questions about gender, race, and major empty. The official survey reports on age and education level both of which were the same for all of our targeted participants (college-aged, full-time student).

When it came to the final ACE score, the CDC reported scores in relation to gender. CDC reported that 15.2% of women and 9.2% of men reported a score of four or more. For the present study, researchers found that 11% of females (.07% of the whole population) and 12% of males (.04% of the whole population) reported a score of four or more and. Out of the 7 participants that reported with a score of four or higher, the majority were female – just the same as the official CDC survey (CDC, 2021). The CDC did not report on the relationship between race and ACE score. The researchers compiled all statistics into graphs to easily identify the relationships between gender, race, and ACE score. These graphs can be found in Appendix F.

Introduction to Themes:

The participants in this phenomenological study shared their perceptions of having an ACEs score of four or higher and the impact it has on them in the classroom. Their understanding of their ACEs has been influenced by the severity of the various experiences they

shared about. Though each participant said “yes” to a minimum of four questions on the survey, their score was tailored to them, which means that not everyone said yes to the same items. For example, Loreli said yes to losing a family member (either to death or divorce), yet Jessie answered no. Loreli and Jessie each still qualified for an interview based on their total scores, not which questions they answered yes to. The researchers also included information on the background of the participants who were interviewed to better understand the capacity of their academic experiences as Northwestern College.

Jessie, a male, is a White-Hispanic senior majoring in elementary education. Rory is a White female who is also a senior. She is studying English teaching. Dean is a White male and a freshman who is studying business administration. Luke, a male, is Hispanic and a sophomore majoring in criminal justice. Loreli, a white female, is a senior majoring in social work. Researchers explored participant's academic experience with this knowledge. Researchers, through direct dialogue were able to find consistencies throughout the shared experiences between the participants. The researchers worked together to develop themes discovered between at least two of the participants based on their narrative and shared answers to the various sub questions. Figure one includes the six themes that researchers concluded after reviewing each participant's transcripts and completing the coding process.

Figure 1:

| Themes |
|--|
| Theme 1: Lack of Academic Motivation (Focus, Attendance, Work Quality, and Priotizing) |
| Theme 2: Poor Time Management |
| Theme 3: Negative Perception of Self |
| Theme 4: See the World Differently |
| Theme 5: Empathetic Learners |
| Theme 6: Career Choices |

Theme 1: Lack of Academic Motivation (Focus, Attendance, Work Quality, and Prioritizing)

After reviewing the participants' responses from their interview, it was evident all participants lacked academic motivation in various circumstances in their lifetime. Their lack of academic motivation can be attributed to many different attitudes, emotions, and environmental factors that participants may or may not have explained. After being asked, "In what way has your Adverse Childhood Experiences worsened your academic performance," all participants spent time reflecting on their experiences considering academic performance. All five interviewees spoke of a negative emotion involving academics, especially during or after a tough life-event. Loreli, one of the participants, states, "So like I remember right after that I was struggling academically a lot. Like I wouldn't study for tests. Like I remember failing a chemistry test and my teacher came up to me and he was like Loreli, do you want to retake this because this isn't like you. And I was like yeah, I would appreciate that a lot. Because like I said I didn't study, I didn't care. That was just not my priority." Loreli was able to describe her experience in the classroom after her father died. Her experience shows a single ACE score (the

death of a family member) can change a person's academic focus. Jessie also expressed a similar circumstance, "Because I can't focus for long periods of time, I've gotten really good at doing a whole lot of work in that short period of time when I can focus. So, I would say that's probably a strength, but also a weakness because it's not good. I wish I could sit down longer and like actually focus on stuff, but I can't do that." Jessies experienced abuse personally and watched his mother being abused during this time in school. This example continues to provide evidence of ACE scores influencing academic motivation. Lastly, Dean describes in experience in the classroom by stating, "Sometimes the focus is not there, so like, um, it's like a zoom in and zoom out and you just blank out and you're just not there." Dean's description in the classroom is not specific to an adverse childhood experience, but researchers believe his inability to focus may be link to his experiences. Personals experiences have influences people's academic motivation because of various experiences and the connections linked to them.

Theme 2: Poor Time Management

Researchers posed follow-up interview questions to understand classroom activity. One of the questions that researchers asked the participants was, "In what way have your Adverse Childhood Experiences hindered you in the classroom (for example, time management or working with a group)?" Researchers found a consistency of poor time management in the responses shared from the participants. For example, Luke directly stated, "I struggle with time management." Other participants expanded by sharing that the anniversary of their traumatic experiences catalyzes poor management behavior. Loreli shared that her father passed away from a brain tumor. His death leaves a specific date in Loreli's mind, one that causes a lot of emotions to surface when it comes around each year. Loreli states, "I mean around the anniversary, and stuff like that I still get things done but I feel like that procrastination is still in me from high

school.” Her father passed away when she was in high school. She expanded that many teachers gave her a lot of grace by offering her extensions and dismissing assignments. She knew that teachers were trying to help, but ultimately, they helped condone her procrastinating behavior. This poor time management seems to come around each year as she mourns her father's death.

Loreli’s poor time management is more detrimental at certain times of the year than others. With Jessie, his struggle is more of a continuation throughout his academic performance. This is evidenced by him saying “I pretty much always got something late or something.” Jessie struggles with time management in his assigned work outside of the classroom. The first theme contributed heavily to poor time management. Those who had a “lack of ability to focus” shared that this weakness infiltrated other areas of their lives as well.

Other participant’s poor time management was demonstrated by his or her need for accountability. For example, if Dean does not have someone checking in on him to make sure he is getting assignments in on time, he can easily feel himself falling behind. Dean has poor time management if he is left on his own. He states, “So yeah, like, uh, it’s always has to be someone has to like, uh, make sure I’m on the track.” Dean shared that having another person hold him accountable keeps him on time for important events and assignments and helps him, so he doesn’t “just like go the wrong way.”

Theme 3: Negative Perception of Self

Many of the participants responded to the question, “How have your Adverse Childhood Experiences affected your perception of yourself?” with a negative connotation. For example, Jessie explained by saying, ““And I don't think I look at myself in a different person. I don't have a ton of confidence. I'm not the biggest fan of myself, I think there's other people doing a whole lot better than I am. It's probably some negative view.” Jessie’s experiences with depression and

poor self-image have been a significant part of his life influencing him daily. Psychologists have explained that a person is more likely to have depression if a parent or family member is diagnosed; when taking the ACE's survey Jessie marked that a parent or family member struggled with depression, signaling that it may have been more likely he struggles with depression also. Luke describes his perception of himself in negative terms voicing, "I struggle with confidence a lot... With like knowing my own worth and struggle with the idea of love a lot too that's always been something that I always struggle." Luke's struggle with confidence bleeds into the classroom causing guesswork and feelings of instability in the academic setting.

Dean continued to the trend of a negative self-perception, experiencing it in the classroom stating, "I'm not a very like sharp person, so like, um, I noticed that I like, like, I don't know why." Dean's negative terms towards himself indicate his childhood experiences negatives affected his perception, possibly causing him to lose confidence in the classroom. Along with negative self-perception, another interviewee, Rory, discusses her confidence by saying, "I very much do not believe in my own capabilities. I typically don't believe that my ideas are good, yeah, so I tend to not speak out in any way like sharing my ideas." With the influence of other themes like poor time management and lack of academic motivation, researchers believed negative self-perception influenced a person's ability to believe they could be successful.

Theme 4: See the World Differently

The theme of seeing the world differently was found in three of the participants. Though this might seem like a lower number of participants to conclude a theme from, researchers felt that it was important to include because it captured the characteristic of resiliency. Two of the sub questions that the researchers asked during the interview were focused on strength and resiliency. The researchers found that these two concepts were both efficiently demonstrated

when participants opened up about their understanding of their experiences as a part of their identity.

In this sense, their experiences, like Dean states, “have definitely played a part in my way of understanding things.” Three participants were able to clearly explain that they were markedly changed by their past. Some, such as Dean, “see the world differently” and others, like Jessie, realize that “people have a really negative view of trauma.” Going through these experiences themselves have given the participants a different understanding and perspective.

Resiliency is evidenced by Loreli’s words such as, “I’m down to the point where I am comfortable talking about it” rather than when Jessie characterizes the outside world when “it hurts so much that people should just not talk about it.” Researchers found that when participants verbally confirmed that they had acknowledged the role of their ACEs in their lives, that they were more open in their responses to the sub questions. Participants who had previous acknowledgement of their ACEs were not discovering the impact of ACEs for the first time alongside the researcher during the interview. Because of this, researchers were able to gather information from participants who had “come to terms” with their experiences up unto this point.

Theme 5: Empathetic Learners

From collecting the data, the researchers realized that many participants related to others that have been in similar situations as them. In an interview conducted with Loreli, she tells of her experiences maturing, “I feel like in group work if someone you know doesn’t get something done, I am like really sympathetic because I’m like oh maybe they are going through something. Or like you know I just feel like I’m a lot more aware in like group projects of like other people.” Loreli’s own ACE’s have expanded her empathy and understanding for others, especially in the classroom. She is aware that people might be going through hard times and offers them grace.

When responding to, “In what way have your Adverse Childhood Experiences affected your ability to cope with and react to academic stress?” Jessie explained, “So my biggest thing is like just being able to like, take that time and like, pour into people and just like, slow down.

Everything goes way too fast, as being able to slow down and just like have those conversations with people makes a huge difference for me, and I have seen it make a difference for others.”

Jessie was very empathetic with those to similar experiences. His ability to care for others that have experienced the same thing has given him a heart to serve others, especially in the classroom. Rory expressed the same desiring stating, “Finding ways to channel the experiences I have had to teach students more effectively is important. This brings different opinions and understanding other people in that way...to bring that like collaboration and safe space in the classroom as well.” Many students shared they can understand others in a similar situation because of their ACE score. Their ability to understand others can help their peers in the classroom when they are struggling with similar experiences.

Theme 6: Career Choices

Researchers learned that among some participants there was a common connection between one’s chosen career path and their adverse experiences. Some participants considered their career path some sort of calling. Researchers observed this as having a more spiritual level to it. For example, Luke states, “I really don’t know yet I just feel called to like lead and be a manager of some sorts.” The strengths that were discovered in light of their adverse childhood experiences are being used to better understand the participant's purpose and future job.

Others, want to offer professional help to people who are going through something similar to them. At the collegiate level, participants shared that they are often asked a series of questions such as, “what is your major,” “what do you want to do with that,” and “what made you do that.”

Because of the age and stage of life of the participants, this was a common shared inquisition in their lives. Loreli, a social work major, notes that her response to “why do you wanna be a social worker, and what brought you to social work” usually entails an answer in which she “would always talk about my dad.” Though these experiences are difficult to go through, some participants have been able to use their experience to better understand others going through something similar, and thus be in a position to help out.

Social work is not the only major that the participants have found a heart and purpose for. Jessie, an elementary education major shares that his passion for children is heavily influenced by the lack of support that he felt he experienced in his life. He wants to be the someone that he needed. As an elementary teacher, Jessie’s focus will not be “if they were an all-state, math, cool, awesome, that they’d love math...but that’s not the overall goal.” Rather, his overall goal is to be a “father figure for the kids that don’t know their father.” Additionally, Jessie wants to “help kiddos live life and be happier.” Without the adversity that Jessie faced in his lifetime, he may not have had the same career choice.

Like Jessie, Rory illuminates that her career was majorly influenced by her ACEs. She shares that “once I finished high school, I decided that I wanted to be a teacher.” Again, like Jessie, her motivation for studying education was to “make even the smallest change” in the lives of children. Rory calls her ACEs a “major motivation” as it catalyzed her career choice and encouraged her to be “better than the people I was surrounded by.” Participants’ resiliency was demonstrated in using their negative situation and turning it into a positive good to help others. Those who have experienced ACEs will be able to connect with certain people in a way that someone who has not experienced ACEs cannot. This can be done through one’s career choice.

Conclusion of Themes: Future of ACEs in the Classroom

In conclusion, participants were asked to share their experiences within the classroom as it related to their ACE score and academic success. It was found that the knowledge they have on the topic of ACE's and its affects has greatly shaped their experiences inside and outside of the classroom. Because of the nature of the sub questions, researchers concluded from the themes that struggles within the classroom are evident in result of adverse childhood experiences. However, researchers were able to identify various manifestations of resiliency as a result of the ACEs as well. In total, adversity experienced in the participant's childhood greatly impacted them in the classroom – both good and bad. Struggles, like a lack of focus were identified such as when Dean stated that “you could just go back to past memory and then you just missed half the class.” Weaknesses in the classroom extended to lacking in time management and motivation.

Additionally, participants often failed to have hope in themselves as Rory shared that “I didn't think that I had a future.” This lack of hope clearly manifested into a negative perception of self. As participants viewed themselves negatively, this impacted their confidence in and out of the classroom setting. Like Luke shares, “I struggle with...like knowing my own worth” and when Jessie says he “is not the biggest fan” of himself. Even further, Rory stated that she “very much” does “not believe in” her “own capabilities” and that she fails to “believe that my ideas are good.” Viewing oneself in this negative light has kept these participants from contributing to the classroom in a healthy and meaningful way. Rather, like Rory, participants often shy away from classroom settings and “tend to not speak out in any way like sharing my ideas.”

Childhood adversity has created both passion and motivation for some participants' future. Acknowledging the presence of the ACEs, showed to be advantageous for the majority of

the participants. Rather than “pretending it doesn’t exist” many have come to terms with what happened in the past and have chosen to grow from it. The resiliency that was demonstrated through the participants is nothing short of remarkable.

Discussion

Summary of the Findings

The five respondents that were interviewed shared ideas in which they felt were important to recognize in the classroom when considering students with high ACE scores. The following majors participated in the initial survey: social work, business administration, English teaching, accounting major, criminal justice, political science, public relations, actuarial science, economics, exercise science, sociology, translation and interpretation, education, Spanish, theatre, religion, Christian education, physical education, nursing, etc. Interviewees consisted of two males and three females majoring in education, social work, criminal justice, and business administration. Evidence from interviews provided awareness of the negative effects ACEs bring into the classroom. Researchers found two themes that provided a positive influence in the interviewee’s life, struggles in life possibly lead to the desire or encouraging and helping others with similar experiences.

Most of the participants were able to share stories about some experiences in which they witnessed or prevailed through including depression, going hungry, the divorce of a family member, the death of a family member, or abuse. It was found students at Northwestern experiencing a high ACE score need support or accountability in the classroom to experience a lot of improving their academic performances.

Previous works studying similar topics upholds results concluded from this study. Blodgett explains in a similar study finds the effects between the ACE score and the risk of poor

school attendance, behavioral issues, and failure to meet grade-level standards in math, reading, and writing (Blodgett, 2018). Evidence-based on this study provided information and conversation as to why their education may not meet standards based on ability to focus, resilience in the classroom, and a support system. The low academic engagement was the source of many students' lack of focus. Background provided by interviewees provided researchers with information connecting to their academic performance and attitude in the classroom.

Findings Related to Previous Literature

Through the approach of a phenomenological study, it is principal to relate the results and findings of the research to the previous conducted research in the literature review. Based on the six themes that the researchers discovered from the interview transcriptions, comparisons and contrasts can be made to earlier research.

The first theme discussed was a lack of academic motivation. This theme was the operationalization of certain classroom abilities such as focus, attendance, work quality, and the ability to prioritize. For example, Luke admits that “I won’t ask any questions, I won’t ask for any extra help I will sometimes won’t even do some homework.” Struggling to maintain efficient motivation to get homework done, focus during class, and actively participate in the classroom setting was a strong commonality found among all interviewees.

Going into the interviews, researchers were made aware from previous research that students who had higher exposure to ACEs “were more likely to have poor school attendance, behavioral issues, and failure to meet grade-level standards” (Blodgett et al., 2018). The results gathered from the interviews were consistent with the published results. Students who have a higher documented ACE score are at higher academic risk. This study focused on elementary

students, but the relationship between ACEs and perceived academic results in college students is comparable.

Additionally, previous research suggested that when individuals specifically experience “victimization” it results in “suicidal behavior, substance use... and lower academic grades” (Martz et al., 2016). This research suggests that results indicated a higher struggle and risk, specifically for females rather than males. Adverse Childhood Experiences include three categories which include abuse, neglect, and household dysfunction. Any three of these categories can force a child into a victim position. Comparably, researchers in this college-level study discovered a higher percentage of females reporting with an ACE score of four or higher. This is comparable to the statistics published in previous research.

Lastly, with the theme of academic motivation, previous research indicated that there were “higher rates of school engagement among children with adverse childhood experiences who demonstrated resilience” (Bethell et al., 2014). Themes four through six contained this concept of resiliency. Many interviewed participants demonstrated resiliency with their ability to talk about their adversities, have empathy for others in similar situations, and use their adversity for a career. However, the participants that demonstrated these characteristics did not necessarily demonstrate higher rates of school engagement. In fact, they displayed the same lack of academic motivation as the participants who demonstrated less resiliency. For example, Loreli shared that she is “really sympathetic because...maybe they are going through something.” However, at the same time, she shared that school “was just not my priority.” Loreli exhibits resiliency but does not demonstrate a higher likeliness to engage in her academics. Therefore, this aspect of the research did not parallel previous research.

The second theme the researchers identified was poor time management. Poor time management was noted as “procrastination” by Loreli, “falling behind on homework” by Jessie, and “somebody has to keep a check on me” by Dean. Dean indicated that on his own, he struggles with time management; however, when he has the accountability of either a friend or professor, he is more successful. Previous research “suggest that understanding and responding to a child’s ACE profile might be an important strategy for improving the academic trajectory of at-risk children” (Blodgett et al., 2008). This research indicates the same theme that Dean shared. When there is a caring figure present, who is actively involved in the lives of a person with a higher ACE score, he or she is more likely to have success. An active accountability figure is a potential strategy to curve poor time management. Poor time management can lead to “academic risk” which would entail “failure to meet grade-level standards in mathematics, reading, or writing” (Lanigan et al., 2018). Poor time management leads to late assignments, missing classes, and poor grades. These conditions can incur stress in the lives of college students. Those who have ACEs “are at a greater risk for poor health” (Krinner, et al. 2020). The addition of stress to poor health can lead to even more stress creating an unhealthy cycle. Previous research stated that “Students respond [to stress] by devoting more time to family issues and their health and grades suffer as a result” (Charles et al., 2014).

The third theme researchers found was a negative perception of self. Researchers discovered that the majority of participants admitted to viewing themselves in some poor way. Some, like Luke, “struggle[d] with confidence” and others, like Dean, admitted to not being “a very like sharp person.” Having low self-esteem and lack of confidence can be identified through previous research as “emotional needs of children” (Post et al., 2020). Previous research indicated that “children in the school who lived in poverty” had an identifiable need for

emotional support which can be found through appointed teachers (Post et al., 2020). From previous research, childhood adversity brings on emotional needs. This was reflected in the participants' responses during the interviews.

Having a negative perception of self was not mutually exclusive with participants' resiliency. One could demonstrate resiliency in their life, and still, share dialogue that indicated low self-esteem. Researchers were surprised by the disconnect here. Researchers had initially hypothesized that getting through difficult situations would allow a person to see their strengths, and therefore, think of them as more highly. Previous research indicated that "Acquiring this "authentic self-esteem" starts by shifting our internal focus for ourselves—and others, including our children—to a thorough appreciation and application of how we (or they) have "done as well as we've done" (Henderson, 2021). Thus, researchers expected participants to have higher praises for themselves than what they shared, based on the things they have had to overcome. Previous research and the discovered commonalities were not parallel through this theme.

The fourth theme was seeing the world differently. Researchers concluded this theme from only some of the participants. This theme was an understanding that the ACEs had occurred in the lives of the participants and effort had been successfully implemented to move forward. Thus, these participants were not defined by their ACEs. Because "ACEs have been consistently linked to psychiatric difficulties in children" researchers expected students to have a difficult time processing their experiences and moving forward (Carlson, 2019). Shared dialogue indicated that participants did have psychiatric difficulties, which mirrored published research (which ranges anywhere from disturbances in thought processes to mood and behavior). Though research reflected previous research by predicting psychiatric difficulties, some participants were

able to connect their difficulties to their ACEs. Understanding the source of their difficulties was one way that researchers operationalized moving forward.

The lasting effects of psychiatric difficulties were also why a lot of the participants admitted they might acknowledge their ACEs, yet their ACEs cannot be forgotten as they move forward with their lives. Part of the “moving forward” process meant dealing with the stress incurred from the ACEs, academics, or numerous other factors. Previous research indicated that a coping mechanism to deal with adverse experiences included “sharing their thoughts and feelings about their experiences” (First et al., 2017). This coping mechanism was evident in some of the participants. The participants who were more open about their experiences demonstrated a stronger ability to move forward.

Additionally, this theme reinstated the researchers’ understanding that interviewing college-aged students was advantageous for many reasons. For one thing, ACEs focus on “Potentially adverse traumatic events that occur in childhood” which is considered to be in the “first 17 years” of one’s life (CDC, 2021). College-aged students are outside of the “childhood” time. Thus, naturally, participants have had more time to consider, process, and experience the possible effects of ACEs. A lot of previous research focused on younger individuals who are still in the midst of their development. It is possible that if interviewed at a younger age, these participants might not have exhibited this theme.

The fifth theme discovered through shared dialogue was empathetic learners. Many participants explained that because they endured adversity in their childhood, their general awareness of it was enhanced. Thus, they were more sympathetic and understanding of students, knowing that they too might deal with the effects of adversity. This was a strength of participants that were identified in the classroom setting. Having “an increased awareness of ACEs” can be

the first step to having “proactive interventions in response to ACEs” (Carlson, 2019).

Participants’ testimony demonstrated this to be true. Participants shared that because they had increased awareness, they were more likely to place themselves in a position to help others.

Awareness is important as previous research indicated that “Students who enter college under prepared are often considered at-risk students” (First et al., 2017). These at-risk students are susceptible to “continuing negative consequences” (Charles et al., 2014). Empathy, sympathy, and understanding are important values to consider when dealing with a highly intense and traumatic subject such as ACEs.

The final theme that researchers concluded was career choices. Specifically, researchers found that participants’ career choice was greatly influenced by the reality of the ACEs and thus, they wanted to help others who would be at risk as well. Previous research indicated that “trained teachers, counselors, program staff, or volunteers” can be essential in helping students deal with “disasters, community trauma, and other challenges” (First et al., 2017). Going into the interviews, researchers were aware of the need for individuals to help in the journey of dealing with one’s ACEs, but researchers were impressed that some participants wanted to be these individuals. Because individuals have “varying backgrounds with different academic abilities” it is crucial to have adults who have knowledge of this and then, beyond that, have the desire to assist others (Laskey, 2011).

Because of the limitations of research, it is unsure of how the determination of participants with a high ACEs score compares to the average college students who do not have a high ACEs. Nonetheless, researchers concluded that participants who shared that their ACEs have served as career motivation seemed motivated to achieve this career status in order to help others. Researchers categorized this desire to help others as a healthy indication of resiliency.

From previous research, researchers understood that “resilience in students with ACEs are a positive developmental quality” (Carlson, 2019). Though the participants markedly struggle within academic settings, the end goal for many of them is clear. For some, this end goal is social work and for others, it is to be an educator. Either direction, ACEs have greatly impacted this decision, and participants have chosen to follow a path that will put them in a position to help others. Researchers found this to reflect previous research as a definite “positive development quality.”

Research Limitations

The majority of research, whether qualitative or quantitative studies, will have limitations. The perfect study does not exist. Research limitations are factors that are outside of the researchers’ control. Essentially, they are influences that restrict the total data gathering experience which could, in the end, impact the results of the study. It is important for researchers to acknowledge the limitations so that when he or she is analyzing the results, the limiting factors can be accounted for.

One research limitation that was discovered while conducting the Adverse Childhood Experiences study was time. Due to the importance of ethical considerations, researchers had to acquire approval from the Internal Review Board before continuing with the study itself. The process of approval extended into the data collecting time that was allowed for researchers. Once the study was approved, researchers had one week to send out the ACEs survey to the Northwestern College department heads to pass on to their students. The survey itself was made available to students for one week before researchers had to begin the interview process with participants who scored a four or higher. Researchers then had one week to conduct the interviews, transcribe them, and combine all the collected data. In total, after receiving approval

from the IRB, researchers had three weeks to create the survey, allow students to take the survey, examine survey results, conduct interviews, and analyze interview results. If the survey itself would have been open to the student body for a longer period, there is a chance that more participants would have taken it.

If more students would have taken the survey, this would have increased the sample size for the researchers. With a larger sample size, the possibility that researchers would have found more individuals with an ACEs score of four or higher could have increased as well. An increase of individuals who met the interview criteria would have expanded the connections made between researchers and interviewees. The more interviews conducted; the more data could have been gathered. More data would have strengthened the results of the ACEs study altogether. Additionally, more participants could have expanded the understanding of the studied phenomenon that the participants have experienced.

A final limitation that the researchers experienced was gender. In appendix F, included is a graph that demonstrates the gender ratio of participants. Out of the 69, participants that finished the entire survey 62.3% were females. Out of the seven participants who had a four or higher, four were female and three were male. Once researchers reached out to all the individuals who met the criteria, only two females were available for a follow-up interview. From the official CDC Kaiser ACEs survey, the results indicate that females are more likely to have a higher ACEs score than males. This statistic remained true from the results of the survey; however, researchers were limited in gathering data from the females during the follow-up interview portion based on those who responded to the interview invitation. Researchers were unable to gather representative data on this phenomenological study. If gender was accurately portrayed

through the interview times, there is a potential that researchers would have found additional, important themes that expanded the awareness of ACEs and their impact on academics.

Relating the Study to Professional Outcomes

All the researchers involved in this study are currently enrolled in Northwestern College, studying in the department of social work. With this chosen future profession, researchers will likely interact with individuals who are experiencing adverse childhood events or someone coping with the effects. Researchers will be in a position to provide services for these individuals. Researchers will have a responsibility to educate, connect, advocate for, and empathize with, individuals who have gone through adversity in their childhood.

One of the most beneficial ways to foster child resiliency and promote success in his or her future is to be a present, supportive figure in their lives. This has been made evident in previous research which suggests, “The most common factor among children who show resilience is at least one stable and responsive relationship with a supportive adult” (*Take the ACES quiz*, 2021). A social worker has the responsibility to be a supportive adult. If social workers are able to foster resiliency, they could see the development of beneficial characteristics that the researchers discovered in this study, such as empathy and passion to help others. From previous research, researchers were made aware that ACEs can be a cyclical phenomenon if no steps are implemented to improve a person’s life.

Cyclical means that as a student experiences adversity and if she or he does not receive adequate help they need, their lives can eventually mirror their past. They would create an environment like the one that they had, and their children would have a high ACEs as well. This is not the case for every individual with a high ACEs score, however, it is a common reality. Resiliency can be a characteristic that breaks this cycle. Social workers are just one example of

an adult who could aid either a child during his/her adversity or a person experiencing the impacts of their ACEs outside of childhood years.

A very principal understanding of this study is that there needs to be an increased awareness of the presence of ACEs and their detrimental impact on students as they enter post-secondary education. With more awareness of ACEs, both preventative measures and reactionary measures can be taken to help curve and deal with the impacts of abuse, neglect, and household dysfunction. Social workers are not the only supportive adults who are able, and responsible to be aware of and active in the lives of individuals with ACEs. Other adults like schoolteachers and professors, family friends, church members, and coaches are all influential adults who can offer support.

Bringing more awareness to the phenomenon of ACEs helps bring greater attention to the signs of abuse, neglect, and household dysfunction. Being aware of signs can potentially prevent the continued occurrence of adversity during childhood. Additionally, greater awareness of the occurrence of ACEs means greater knowledge of their impact on college-aged students. Awareness is a key step in providing a future for college-aged students in supporting positive mental health, coping strategies, and continuing education on the lasting effects of ACEs.

Relating the Study to Social Meanings and Relevance

While the researchers were conducting the study and gathering data it became evident that not everyone is aware of what an ACEs score was. The researchers faced many obstacles with approval due to the lack of knowledge related to this study. As social work majors, the researchers were well-versed in the concept of what an ACEs entailed; however, researchers' knowledge of the impact of ACEs was greatly expanded during the extent of the study.

Throughout the study, a common question that emerged during the researchers' discussion was "Why are many individuals unfamiliar with ACEs?" Researchers discovered that schools are not given adequate resources to raise awareness of adverse childhood experiences and how they can have a lasting impact on children in their future as college students. Awareness of ACEs can be increased by encouraging schools to distribute information on ACEs themselves through videos, lectures, and printed materials. Additionally, schools can continue to provide programs such as after-school clubs, counseling, and trauma-informed staff which offer spaces to counteract the academic risk that statistically follows childhood adversity. The hope can be that children can thrive with the correct resources, and the lasting, negative effects of ACEs can be lessened as individuals enter post-secondary education. Learning about one's ACEs, as well as how to cope with the negative effects of them, can truly benefit an individual as they enter college.

Resources in academic settings might serve individuals for college environments, however, researchers found a lack of reactionary resources available on college campuses, specifically the setting of the study – Northwestern. From direct dialogue with participants who had a four or higher, it was made evident that academic motivation, poor time management, and negative self-perception were the major lasting impacts of ACEs. Additionally, participants shared that accountability had been a major key influence in their ability to get through college academics. Researchers believe that it would be an important consideration for college campuses to improve the resources available to help serve students, such as the interviewed participants. These resources can act as the necessary accountability piece that participants admitted would be helpful. The toxic stress that can incur from ACEs can be detrimental to a student in addition to the stress that forms from academic endeavors.

Researchers noted that Northwestern College currently has resources wellness center, the peer learning center, and sports-initiated studying time in the Dewitt Learning Commons. These resources are a good start, but there is still a desperate need for resources created to help students who experience academic stress due to mental health issues from childhood adversity and trauma. These resources would not be limited to ACEs students but could benefit the campus as a whole. One example is something such as the use of Emote. Emote is “a free app aimed at facilitating closer connections between schools and students – making it easier for staff and teachers to understand and support students’ emotional needs” (Golder, 2021). Emote is just one example of an available technology-based resource that hopes to equip campuses to better serve individuals who have experienced extreme adversity in their childhood. These individuals are living with intense, toxic stress as a result of ACEs and yet, campuses expect academic excellence. If this is the expectation, it is beneficial for college campuses to improve resources to aid students.

Closing Comments on Future Direction & Goal Offer

Adverse childhood experiences have changed the way students can engage, learn, and perform in the classroom. Challenges in academics influenced by their ACE score hindered their ability or process of achieving potential success. Once researchers concluded their results, they began to understand and identify there are diverse needs in the classroom. These needs in the classroom can be based on the individual’s lived experiences within the world that include their adverse experiences. The range of classroom ability can be connected to ACE's that influence performance. Researchers recognize college campuses must improve programs and resources to help students with ACEs, especially when it comes to academic success. Tutoring and study sessions are not enough; while these cover basic needs, more resources must be found to help

students emotionally, spiritually, and academically. Researchers encourage future studies to look at college student's GPA (Grade Point Average) connection and ACE score. They are recommended educators provide new programs to help students in college that need or desire extra academic help.

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Appendix A: Informed Consent

Adverse Childhood Experiences (ACEs) Survey

Informed Consent Form

Dear Participant, we are interested in understanding how your adverse childhood experience, or ACEs, score affects your college academic success. In this phenomenological qualitative study, you will be asked ten ACEs questions. Most of the included questions pertain to the potential of adverse childhood experiences in the first 18 years of your life. The ACEs survey consists of questions that were not created by the researchers in this study but have been nationally recognized and instituted by the Centers for Disease Control and Prevention through the CDC-Kaiser study. In addition to the ACEs survey, there will be basic questions regarding your current academic status and major. These questions were created by the three researchers of this study to preliminarily understand your college status.

If your results demonstrate a score of four or higher, the research study leaders may reach out to you via email to set up a secondary interview. This secondary interview will be a one-on-one experience via Zoom. The questions that will be asked in this interview are created by the study's researchers and will explore the impact that your adverse childhood experiences have had on your college success thus far.

Your answers will be kept completely confidential in a secure folder located on the project director's desktop. The only people who will have access to the survey results are the research study leaders and the project director.

Dawson Jacobsma: dawson.jacobsma@nwcsiowa.edu

Maya Hall: maya.hall@nwcsiowa.edu

Brittney Sween: brittney.sween@nwcsiowa.edu

Project director: Dr. Valerie Stokes vstokes@nwcsiowa.edu

The potential risk for involvement in the survey and interview may be moderate as it may involve recalling distressing thoughts of previous family difficulties and/or abuse. These memories may rise to your present cognition. If these thoughts become distressing, we would urge you to contact the wellness center for any reactionary emotional response from recalling trauma as you answered the questions.

If any of the survey questions result in emotional trauma, Northwestern College provides professional mental health assistance through the established Wellness Center. The Wellness Center can be found in the Rowenhorst Student Center on campus. To contact the Wellness Center for external assistance following this survey, email wellness@nwcsiowa.edu or by phone at 712-707-7321.

If you have any questions or concerns regarding this study, please feel free to contact the project director via the following contact information:

Dr. Valerie Stokes - Social Work Department VPH 206 vstokes@nwcsiowa.edu

By signing below, you acknowledge:

1. Your participation in the study is voluntary.

2. You are 18 years of age.
3. You are aware that you may choose to terminate your participation at any time for any reason.

If you score a 4 or higher on the ACEs survey, you agree to us researchers reaching out to you for an additional interview to better understand your adverse childhood experiences and the impact they may or may not have on your college education.

X _____

Appendix B: ACEs 10-item Questionnaire

Q1 Before your 18th birthday, 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 (1)

NO (2)

Q2 Before your 18th birthday, 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 (1)

NO (2)

Q3 Before your 18th birthday, did an adult or person at least five 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 (1)

NO (2)

Q4 Before your eighteenth birthday, 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 (1)

NO (2)

Q5 Before your 18th birthday, 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 (1)

NO (2)

Q6 Before your 18th birthday, was a biological parent ever lost to you through divorce, abandonment, or other reason?

YES (1)

NO (2)

Q7 Before your 18th birthday, 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 over at least a few minutes or threatened with a gun or knife?

YES (1)

NO (2)

Q8 Before your 18th birthday, did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

YES (1)

NO (2)

Q9 Before your 18th birthday, was a household member depressed or mentally ill, or did a household member attempt suicide?

YES (1)

NO (2)

Q10 Before your 18th birthday, did a household member go to prison?

YES (1)

NO (2)

Q11 (Researcher-added question) If you are willing to meet in person or via zoom, at another time, to discuss your adverse childhood experiences and the effects it has on you now? Along with being put in a poll to receive a \$10 gift card to Town Square, then please provide your name and email below.

Appendix C: Debriefing Form

Thank you for taking time out of your college life to complete this ACEs survey. If this study affected, you in a negative way please reach out to the Campus Wellness Center or Dr. Stokes via the following information.

Campus Wellness Center:

Located in the Rowenhorst Student Center

wellness@nwcsiowa.edu

712-707-7321

Dr. Valerie Stokes - Social Work Department

VPH 206

vstokes@nwcsiowa.edu

If you know of any friends or acquaintances that are eligible to participate in this study, we request that you not discuss it with them until after they have had the opportunity to participate. Prior knowledge of questions asked during this study or other aspects of this study can invalidate the results. We greatly appreciate your cooperation.

If you have any further questions about the ACEs survey and the possible future interview portion or if at any point you would like to withdraw from this study, please contact one of the study leaders via the following contact information:

Dawson Jacobsma: dawson.jacobsma@nwcsiowa.edu

Maya Hall: maya.hall@nwciova.edu

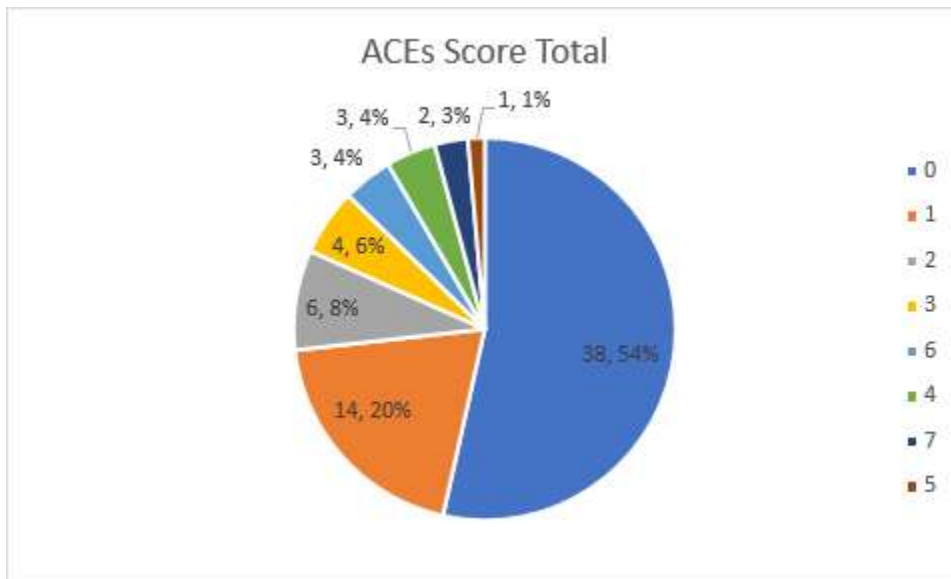
Brittney Sween: brittney.sween@nwciova.edu

Appendix D: Sub Questions

- I. What was your ACE score? In one sentence, what does the Adverse Childhood Experiences (ACEs) score you received mean to you?
- II. How have Adverse Childhood Experiences influenced or affected your ability to function as a student in the past, and how might it be affecting your ability to function now as a college student?
- III. How have your Adverse Childhood Experiences affected your perception of yourself?
- IV. Adverse Childhood Experiences may have affected your academic performance over time.
 - a. In what way has your Adverse Childhood Experiences improved (strengthened) your academic performance (for example, in your grades or test taking)?
 - b. In what way has your Adverse Childhood Experiences worsened (weakened) your academic performance (for example, in your grades or test taking)?
- V. Adverse Childhood Experiences may have affected you in the classroom.
 - a. In what way have your Adverse Childhood Experiences helped you be resilient in the classroom (for example, time management or working with a group)?
 - b. In what way have your Adverse Childhood Experiences hindered you in the classroom (for example, time management or working with a group)?
- VI. In what way have your Adverse Childhood Experiences affected your ability to cope with and react to academic stress?

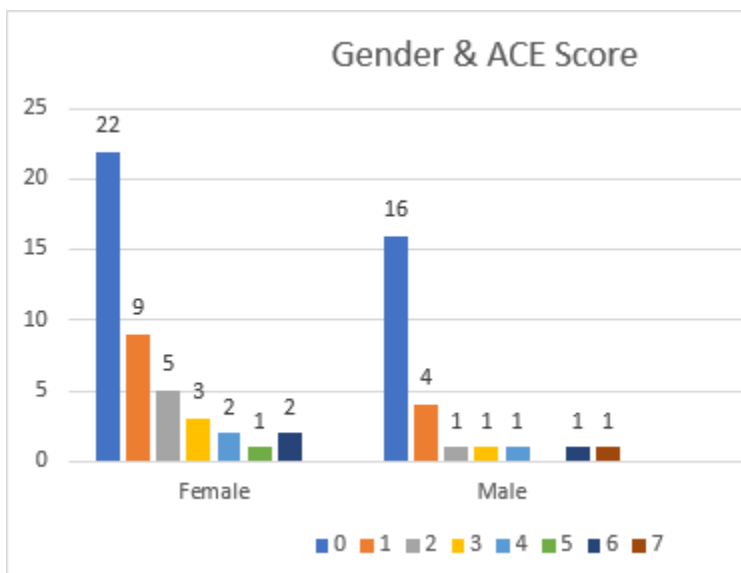
Appendix E: Research Results

Figure 1



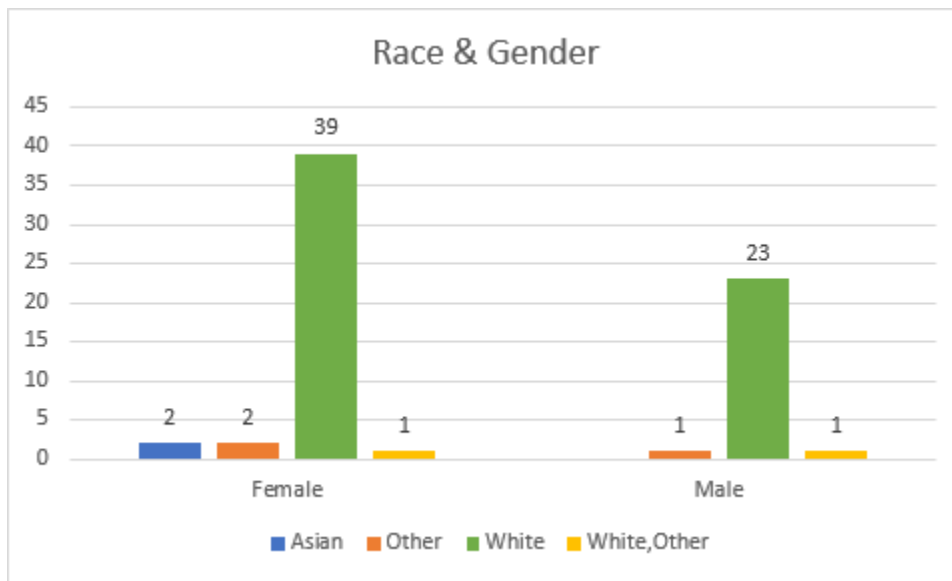
- The above pie chart shows the number of participants who took part in the ACEs survey and what their score was. The legend located on the right-hand side is the score, and the numbers located in and around the chart are the total number of participants that received that score.

Figure 2



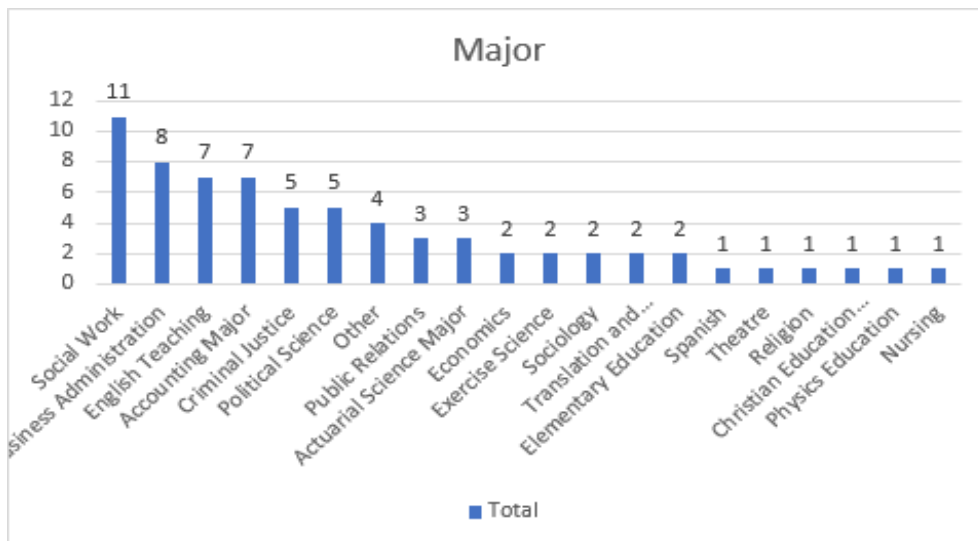
- The above chart shows the relationship between Gender and ACE score. The legend at the bottom shows the ACE score. The numbers in the chart indicate the number of males or females that received that score.

Figure 3



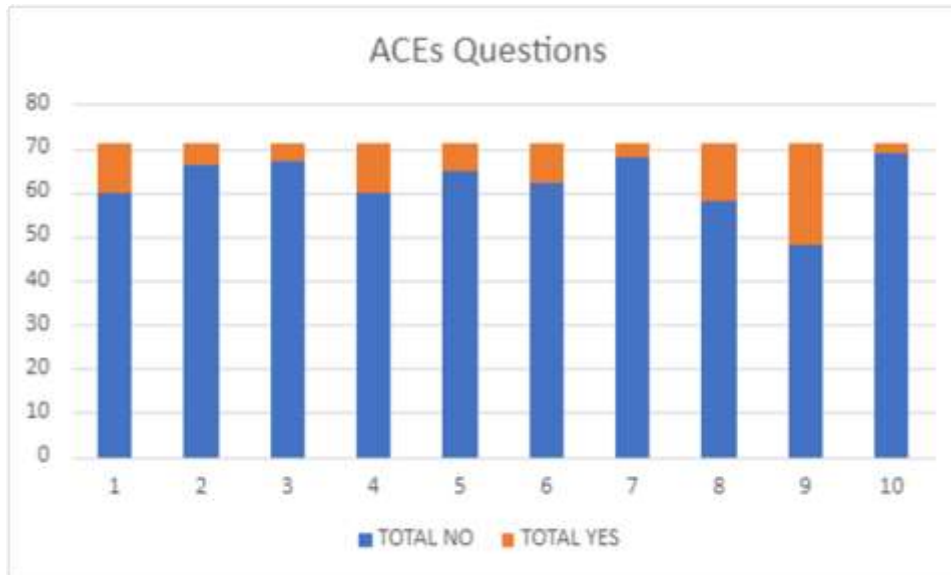
- The above chart shows the relationship between Race and Gender of those who took the ACEs survey. The number in the graph is the number of participants who fit in those categories.

Figure 4



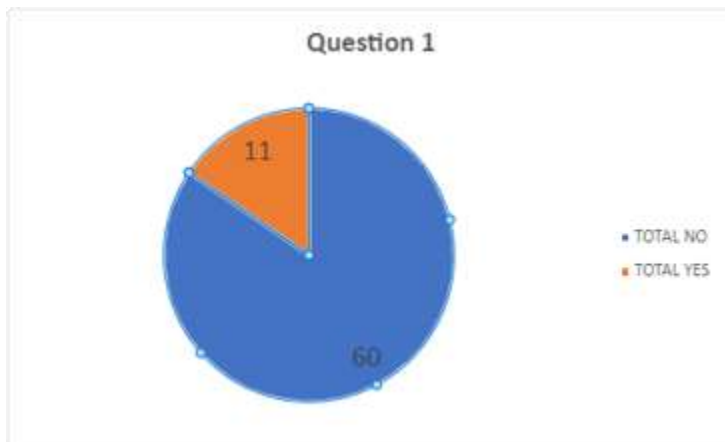
- The above chart exhibits the majors of each participant in the survey. The numbers listed above the bars are the total number of participants in the specific major.

Figure 5

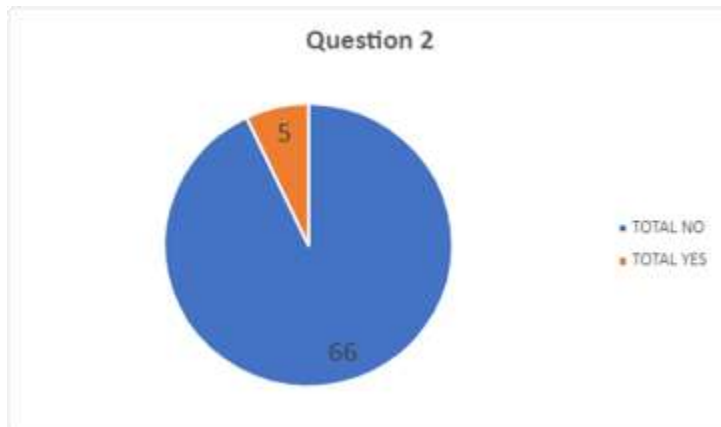


- I. The above bar graph lists the 10 ACE questions with each yes and no that was tallied during the survey portion.

Figure 6



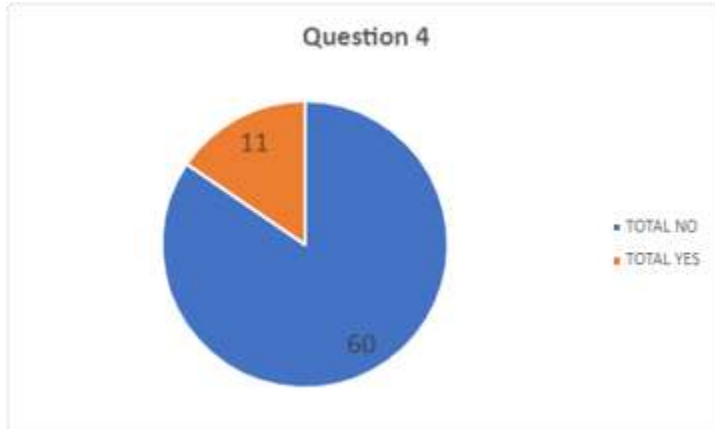
- The above chart shows the total number of participants that said YES or NO to question 1 of the ACE survey

Figure 7

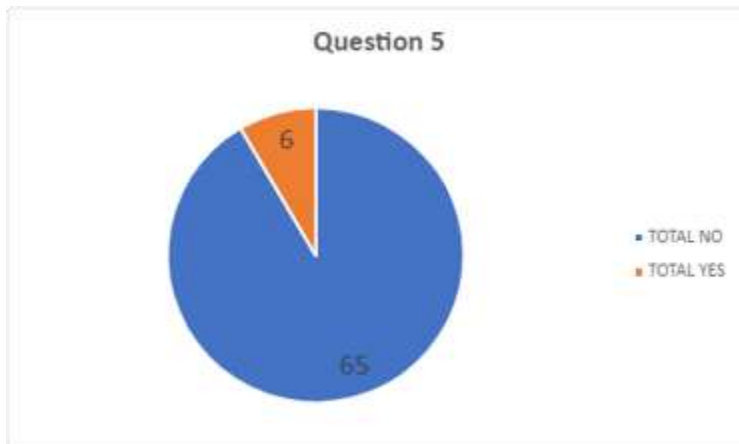
- The above chart shows the total number of participants that said YES or NO to question 2 of the ACE survey.

Figure 8

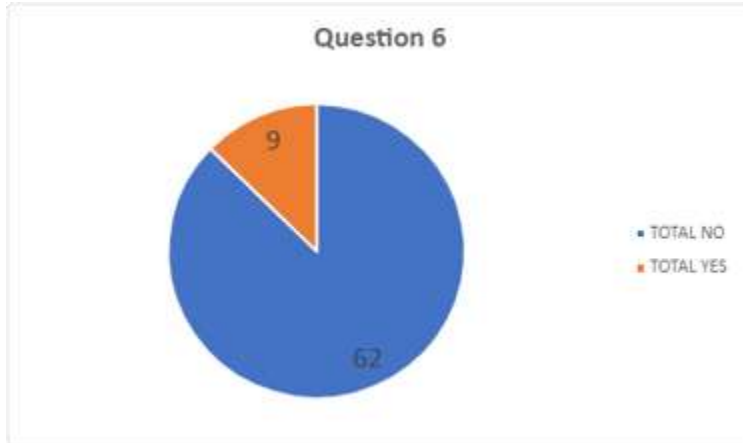
- The above chart shows the total number of participants that said YES or NO to question 3 of the ACE survey.

Figure 9

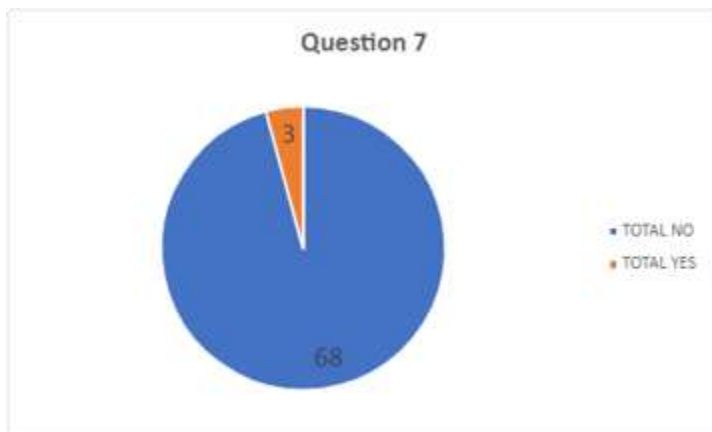
- The above chart shows the total number of participants that said YES or NO to question 4 of the ACE survey.

Figure 10

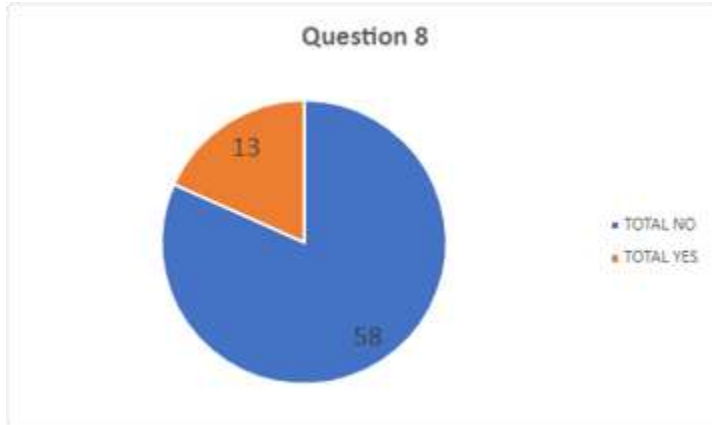
- The above chart shows the total number of participants that said YES or NO to question 5 of the ACE survey.

Figure 11

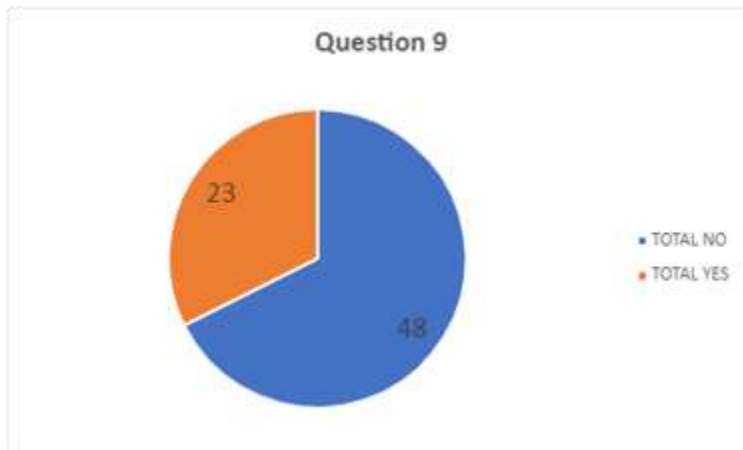
- The above chart shows the total number of participants that said YES or NO to question 6 of the ACE survey.

Figure 12

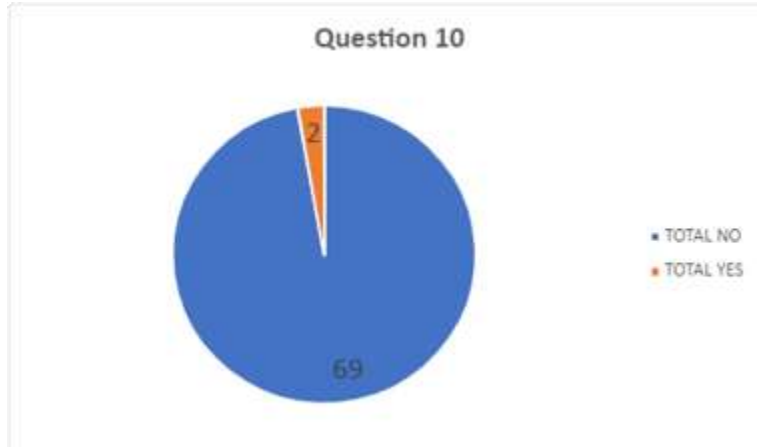
- The above chart shows the total number of participants that said YES or NO to question 7 of the ACE survey.

Figure 13

- The above chart shows the total number of participants that said YES or NO to question 8 of the ACE survey.

Figure 14

- The above chart shows the total number of participants that said YES or NO to question 9 of the ACE survey.

Figure 15

- The above chart shows the total number of participants that said YES or NO to question 10 of the ACE survey.

Appendix G: Role of the Researcher

Researcher: Hall, Maya

After taking the Adverse Childhood Experiences survey, I totaled my score to one. In light of my score, it was made evident to me that I have not had to think about the impact of ACEs in my own life. I have not experienced the intensity and reality of abuse, neglect, or household dysfunction that other college-aged students unfortunately have. This is something that I am grateful for, yet at the same time, it does make it difficult for me to comprehend others' experiences. I would like to think that even though I have a lower ACEs score, I am still aware of the existence of adversity in the lives of children.

The different places where I have lived have influenced my level of understanding and awareness of adverse childhood experiences. I grew up in both Durango, Mexico and, El Paso, Texas. These two places formed my understanding of what a "normal" childhood looked like. When my family moved to small-town Iowa, my normal slowly crumbled. Based on my understanding in Mexico and Texas, I thought that low-income and impoverished families, run-down neighborhoods, and the gang and cartel violence were what everyone lived amongst. However, I slowly realized that these environments were rampant with ACEs. Eventually, when I looked back and compared my life to my peers, I noticed a stark difference that five-year-old me did not fully grasp. A lot of children lived in divorced homes, homes with drugs and alcohol abuse, and homes where my friends at school did not feel safe.

I came home to two missionary parents, a home cooked meal, and devotions before bed. I do not wish to portray that I am ungrateful for the loving home I was fortunate to have. I am saying that because it took me many years to develop an understanding of these differences in the first place, my grasp on adverse childhood experiences and their impact has, at times, been limited.

Overall, this topic has importance to me because it reinforces the concept that you cannot assume things about a person. We know such small portions of a person's story. Childhood is a

crucial time. It is a time where we develop, learn from role models, set goals, and dream. However, all of these things can and are greatly negatively influenced by the adversity that can be experienced during childhood. This study has become crucial in my awareness of the adversity that exists all around me. Additionally, this study reinforced the concept that real-life experiences shape our understanding of a certain phenomenon. It is an honor to sit down with individuals who have given me a different perspective of adversity and have reminded me of the major impact it has on the lives of my peers. I hope that this awareness and understanding of ACEs and their impact on a person will be carried with me into my future career.

Researcher: Jacobsma, Dawson

Education is one of the most important factors in a person's life. Education opens a pathway to new locations, jobs, and people. While many people overlook the power and abilities that education brings into people's lives, I believe it is important to dissect the power that it has. For decades the United States fought for education for all, if everyone deserves an equal but meaningful education, we must search for ways to allow for all to reap the benefits of education. To know exactly how we can improve the education system, we must look at how and why people are not able to be the best version they can be in the classroom. My passion for allowing all to receive maximal benefits from education kicked in and I desired to learn more.

I did not love school every day, nor do I enjoy it most days, but I must remember the benefits it allows me to have. The benefits of getting a quality education outweighed any stress for me. On the other hand, some people are not able to reach the same benefits because of the experiences they have had in life. Sometimes it makes it more difficult to focus or have a safe environment at home to complete homework.

My awareness of adverse childhood experiences began to take shape last summer when I was working at a camp that helps serve children that have experienced trauma. I was having a conversation with a child about returning to school; he explained to me that he had no desire to return to school because of the pressure and stress that it caused him. To dig deeper into his reasoning, I began to ask questions of why. I learned his inability to focus, complete homework, and set goals were all affected by his home environment. This crushed my heart knowing he could not do his best.

This topic and study helped to fuel my passion for helping children in the school system, specifically helping them to receive the best education possible. Personally, this study was the beginning stage of learning who needs extra help and how we can help achieve that.

Researcher: Sween, Brittney

Growing up I had a wonderful childhood but there are many people that did not have a good childhood. As I have grown into an adult who will be a senior social work major, I have met people who have a four or higher score. These people that I have met had a normal and happy childhood robbed from them. Most of them do not realize when they are growing up that their childhood is not everyone's 'normal.'

With each obstacle that I as a researcher faced brought me more motivation to bring awareness to ACE. An ACE score should be common knowledge especially for those who work in any type of school setting. There should also be more resources available to help those individuals affected cope. Whether that be talking through their experiences or finding others who have went through similar situations. These adults that we interview went through way too much as children and their mental and physical health took an impact. One day in the future I

want to look back on my career and hopefully be smile about the impact I made on awareness focused on ACEs.