# Tracking Trauma and Exposing Staff to the Effects of Trauma on Students

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**Abstract**

The purpose of this study is to track the number of incidents of trauma occurring in a school and determine whether trauma can be accurately predicted by a model of best fit. The measurement tool is the ACE's quiz developed by Dr. Vincent Felitti who worked for the Keiser Permanente Group. The study will compare the reports of trauma incidents on a weekly basis using the criteria in the ACE's quiz.

# CHAPTER I

# INTRODUCTION

## Overview

The problem of trauma is as old as human beings themselves. Trauma in the school setting really started getting attention with the study of adverse childhood effects; doctors in Kaiser Permanente completed this study and the goal was to see how ten events, that they defined as traumatic, would affect their patients' physical and mental health over the course of their life. The results were shocking and will be discussed later in this study. The important takeaway for educators is that we cannot expect students to function academically and behaviorally without addressing and being empathetic to their needs.

Shockingly, the study also revealed that this problem is not isolated to one demographic, socioeconomic status, or geographic location (Felitti, 2017). This is a widespread problem that affects every school in every country. Teachers and school faculty would be wise to remember that, every day, students walk through our doors with traumatic events still fresh in their minds.

The researcher developed an interest in this problem during a class, specifically regarding classroom management discussions. After looking into the data and resources associated with trauma, it became apparent that there are many teachers that do not realize that this topic exists and how destructive it is to their classrooms. As educators, it's important to acknowledge the fact that even our high achieving schools have many students experiencing events that can alter their experiences negatively.

## Statement of Problem

The point of the study is to ensure that all school staff are exposed to what trauma is and to determine how many students, currently enrolled, have experienced trauma. One of the biggest issues in education is that many teachers are not even aware that trauma is occurring, much less how to combat it. The study will focus on how many traumatic events occur in our student body and work to make teachers more aware of this phenomenon.

## Hypothesis

The number of traumatic events reported by the counselor's office will increase after teachers become trauma informed with professional development and are given time to form relationships with their students.

## Operational Definitions

The dependent variables would be the number of cases that are reported per week by the counseling office. The ten categories from the Adverse Childhood Experiences (ACE) test will be used as a scoring tool to collect how many of each type of traumatic events are occurring on a weekly basis. The independent variable would be the professional development that teachers would take part in at the beginning of the year. This development will include indicators or symptoms of trauma and appropriate responses to a student who share that they have experienced a traumatic event. It will also include that they need to report this to the counseling office so that the data reflects an accurate statistical analysis of the school. Rejection of the null hypothesis statement indicate a statistically significant increase in incidences reported per week. This should occur as students begin to form relationships of trust and respect in the classroom.

# CHAPTER II

# REVIEW OF LITERATURE

## What is Trauma?

Trauma is a topic that has been gaining significant attention both inside and outside of our classrooms. It is a serious topic that needs even more awareness, specifically in schools. It is something that affects all of us on a daily basis and while there is no cure, we have tools to minimize impacts on our students.

Many of us have our own definitions or beliefs on what trauma is, such as an external negative event that causes us to have a negative reaction. According to Chanlongbutra, Singh, and Mueller (2018), adverse childhood experiences (ACE) are "abuses and household disruptions experienced before the age of 18 that includes exposure to mental illness, substance abuse, imprisonment, separation or divorce, adult violence, physical abuse and sexual abuse" (pg.1). Most trauma is prolonged, and according to Khodabandeh, Farideh, Khalilzadeh, and Hemati (2018), trauma that is significant or long lasting can have lifelong consequences to a person's physical and mental health. Trauma often leaves the victims feeling helpless and causes behavioral and emotional symptoms according to Siddiqui and Qaayum (2015). Trauma is a topic that demands our attention and it is important as educators to become aware of how to identify and cope with students with trauma.

When this researcher first heard the word trauma, an immediate thought was of post-traumatic stress disorder (PTSD), and the soldiers returning from combat zones. There was never a thought of students having experienced trauma until this researcher started reading articles that gave specific examples. One such article chronicled a young

student, Michael, who was showing behavioral issues, such as hiding under his desk and running out of the room. The teachers then found out that the student was walking with his mother and a stray bullet had hit the mother in the arm, and then the behaviors started to manifest. The article, written by Terrasi and de Galarce (2017), suggests that we need to ask what happened to kids, instead of what is wrong with them. This is part of the awareness that teachers need to have to ensure that they are meeting the needs of the student, because according to Terrasi et al., students manifest complex trauma when the trauma is allowed to have a cumulative effect.

Lastly, it is important to discuss how researchers have quantified trauma and been able to identify the populations they have sampled. Two tests have been instrumental in identifying the people who have been exposed to traumatic events. One is called the My Worst Experience Scale by Frederic Medway (Hyman et al., 2002). In the test he has people self-report their worst experience, then has them read and react to behavioral statements, including the frequency of the event occurring and their reaction to the event. The other and more recognized test is the ACE test discussed at length by Khodabandeh et al, (2018). In the test they have six domains which include marriage questions, parents/guardians questions, family questions, abuse questions, violence questions, and peer questions. Participants are to answer yes or no to each question and then are categorized by having 0, 1, 2, 3, or 4 or more yes responses to the test. Each test has different traits and abilities but they are both applicable to identify and give accurate descriptions of the population sampled. An example of the test questions include “Did your parent or other adult in the household often swear at you, insult you, put down, or

humiliate you? Or act in a way that made you afraid that you might be physically hurt?" (See Appendix).

## Who is Affected by Trauma?

A common misconception about trauma is that it only affects certain people, whether it be race, socio-economic status, etc. A teacher in an affluent school may make the mistake of saying that trauma will not be an issue for these students. However, this has been proven wrong many times over, on many levels.

The first major study about adverse childhood experiences, conducted by Vincent Felitti, occurred in the 1980's by a doctor monitoring Kaiser Permanente patients in an obesity clinic. The doctor and his associates collected data for the next twenty years based on the patients' responses and the results were staggering. Out of the 17,337 participants, most were middle aged, middle class, and white. On top of that most were college educated in some way and were employed with health benefits. The results showed that about two thirds reported at least one ACE, and of the people who had one ACE they were more than 85% more likely to have at least one additional ACE. In fact, Felitti (2017) thought that

> the prevalence of adverse childhood experiences (ACE) was found to be so common, once they were routinely sought in clinical practice, and their powerful, dose-related relationship to various damaging outcomes so strong, that one can only wonder why the relationship of life experiences in the developmental years to adult functionality, disease, and life span was not recognized long ago. (p. 205)

Another factor that was thought to have an effect on your ACE score was your geographical location, such as rural versus urban, or what country you reside in. Again, according to Chanlongbutra et al. (2017), while rural areas are less likely to experience ACE, about half the participants in both urban and rural experience at least one ACE. The implication again being that ACE are present in all populations and symptoms exhibited by students must be watched for and reacted to appropriately.

The studies have shown that race, age, socio-economic status, geographical location, etc. has little correlation to your ACE score, which implies that educators need to make sure that they are careful about assumptions in the classroom based on preconceived notions.

## Effects of Trauma

Trauma's most devastating information and statistics come when analyzing the results of the studies. Trauma has far reaching effects on the people who experience it and can last for years or even for life. The effects include mental and physical health degradation, along with social issues that plague victims for life.

According to Bellis et al. (2017), ACE have many side effects including the ability to cause neurological changes. Prolonged exposure to the trauma can cause the pre-frontal cortex, which is the part of the brain that houses the impulse control, to be compromised. This implies that you would develop anti-social behaviors, be unable to cognitively learn and memorize information, and have lower tolerances to stress, to name a few side effects. They also stress that anti-social behaviors include violence and acting out, things many teachers see in classrooms on a daily basis. Bellis et al. (2017) goes on to say the body also has issues regulating the hypothalamic pituitary adrenal axis

function, which in turn means the body does not regulate its immunological systems appropriately. This puts you at greater risk for cancer, heart disease, diabetes, and premature death. To add, ACE have shown a correlation with health harming behaviors such as smoking, alcohol consumption, drug use and poor diets according to Bellis et al. (2017).

While physical health is shown to be affected, we cannot forget about the mental health and academic well being of the student. According to Veltman and Browne (2003), research shows that abused and neglected children have developmental delays and statistically achieve well below average. In fact, they found that 91% of students they identified as having had adverse experiences, were underachieving in an educational setting. Research by Terrasi et al. (2017) has also shown that students who have hyperarousal on a consistent basis (flight or flight) have been linked to poor cognitive performance. In fact, they also claim that these students have difficultly trusting their environments and the people surrounding them. They also struggle with social cues and social behaviors, and as a result do not understand other people's perspectives and cannot form relationships with them.

Lastly, Iacbini, Petiwala and Dehart (2016) found when experiences overwhelm students' ability to cope it can affect a critical developmental period. This can lead to disruptive brain architecture, affect organs vital to development, and establish lower thresholds for responsiveness that last the lifetime of the student. All of these studies and articles point to one undeniable statement about trauma. Trauma, especially at an early stage, influences the body physically, mentally, and cognitively and causes long term academic and health issues that plague the student for life.

## Strategies to Reduce Negative Impact of Trauma

One of the most frustrating things about trauma is there is no one cure that fixes all the problems. It is a problem that affects everyone differently and causes everyone to react differently. However, there are some common themes in strategies that can lay the solid ground work for teachers to reduce the impact of trauma.

According to Cummings, Addante, Swindell and Meadan (2017), we as parents, community members, and teachers can do a few things that help to make a student feel welcomed, safe, and heard. They say that we can be attuned to their needs, convey a positive regard, support positive social, emotional and communicative responses, and engage in proper reactions; all of this helps to negate the impact of trauma. Being attuned to the students' needs can be as simple as looking at the bigger picture before making a decision or reacting, as well as trying to anticipate the needs of the student. Conveying a positive regard can be as simple as trying to build up a student who is a problem, and thereby shunned by the class, into a leader by having them complete easy and simple tasks under the supervision of the teacher to build a successful climate in the classroom. Supportive responses are ones that all teachers would agree can be difficult in a written curriculum but trying to have students respond in creative and different ways could help them self regulate. Lastly engaging in proper reactions can be as simple as asking yourself what happened to the student before asking what's wrong with the student; this can help you to formulate a more appropriate response in dealing with the student before getting angry or judgmental. All of these strategies according to Cummings et al. (2017), can help mitigate the effects of trauma on students and build better behaviors, environments, and relationships in the classrooms.

Another important aspect of mitigating the effects of trauma is to have an active community. According to Siddiqui et al. (2017), we should rely on the community to supply us with knowledge to understand and derive better solutions to problems faced by our students. In fact, they say our goal should be to reduce the authority of experts and allow the affected people to voice and determine how they want to address their issues.

Lastly, educating our students on how they can help themselves reduce the effects of trauma can be more powerful than any other tool. Karatekin, Ahluwalia, and Desir (2018) suggest a few stages in what they refer to as patient activation that need to be realized. Patient activation is the beliefs, knowledge, confidence, and behavioral skills that people need to manage their health. In stage one, it requires the person to realize the importance in being an active member in their own well being and health. Stage two is getting the person the knowledge necessary to manage their own health more effectively. Stage three is taking the knowledge you have and making an action plan and executing your plan to become healthier. The last stage is about maintaining and growing as person to stay healthy. These are concrete steps that students can be taught and worked with that will give them the ability to fight and reduce the effects of trauma on their life.

Being able to understand what trauma is, who is affected by it, what the effects are and what they look like, and trying to reduce the impacts of trauma are vital requirements in a modern classroom. Furthermore, it is our professional duty to educate ourselves on how to identify and combat trauma in our schools and community and these resources from the literature used in the review show clear and concise ways to achieve this goal.

# CHAPTER III

# METHODS

## Design

The purpose of the study was to determine whether trauma-aware teachers would lead to identifying more students experiencing trauma. The first stage was to lead a professional development in the beginning of the school year to educate staff on symptoms of trauma and appropriate responses to a student who shares they have experienced a traumatic event. The counseling office would then track how many of each type of traumatic event occurred, which is defined by the research in adverse childhood effects. The data is analyzed and should indicate an increase from week to week as teachers and students develop relationships, along with teachers using new awareness to help identify students who would not normally visit the counseling office. Since this design was meant to validate the research hypothesis, the design involved modeling the trend across time, regressing the total number of reported traumas per week over eight successive weeks. Linear, quadratic, and cubic trends will be used to determine the best fit to the data.

## Participants

The design's participants were all the students and the teachers/staff in the building. The school population is made up of ninth to twelfth grade students, ninety percent of which are white, four percent are black, and the remaining six percent are Asian, Hispanic, or two or more races. Currently, there is about nine percent of students receiving free and reduced meals and forty-three percent of the students are enrolled in advanced placement classes.

## Instrument

The instrument used is based off of the ACE test, and then the ten categories of trauma were used to define and tally how many of each one occurs per week. To determine reliability, the data was analyzed, however the data should have a strong positive correlation, indicating internal consistency reliability. Since the instrument is based off the ACE test that was created by experts in the field of trauma, and we are looking at multiple types of trauma, this would be a type of sampling validity.

## Procedure

The steps of the research were quite direct; the staff were the only active members during the data collection. The staff participated in trauma awareness, then tried and reported to the counselors when appropriate. Every time a counselor interacted with a student who confided in them that they have experienced one of the ten categories of trauma, the counselor reported this via the instrument. Since all staff had participated in the professional development there was only one group manipulated, meaning that both variables will be in their own respective group.

Analysis Plan: The trend across eight weeks of the number of trauma cases recognized by the school staff will be modeled by regressing the total weekly count over the weeks of the study. The null hypothesis tested was that there was to be a zero slope trend across the weeks of the study. Additionally, if feasible, trend data on the number of traumas reported would be collected for several weeks prior to the implementation of the professional development, during the study, and several weeks after the study concludes. Time series trends were fitted to the weekly data counts, to measure the trend during the study, and if available, trends prior to and after the study.

# CHAPTER IV

## RESULTS

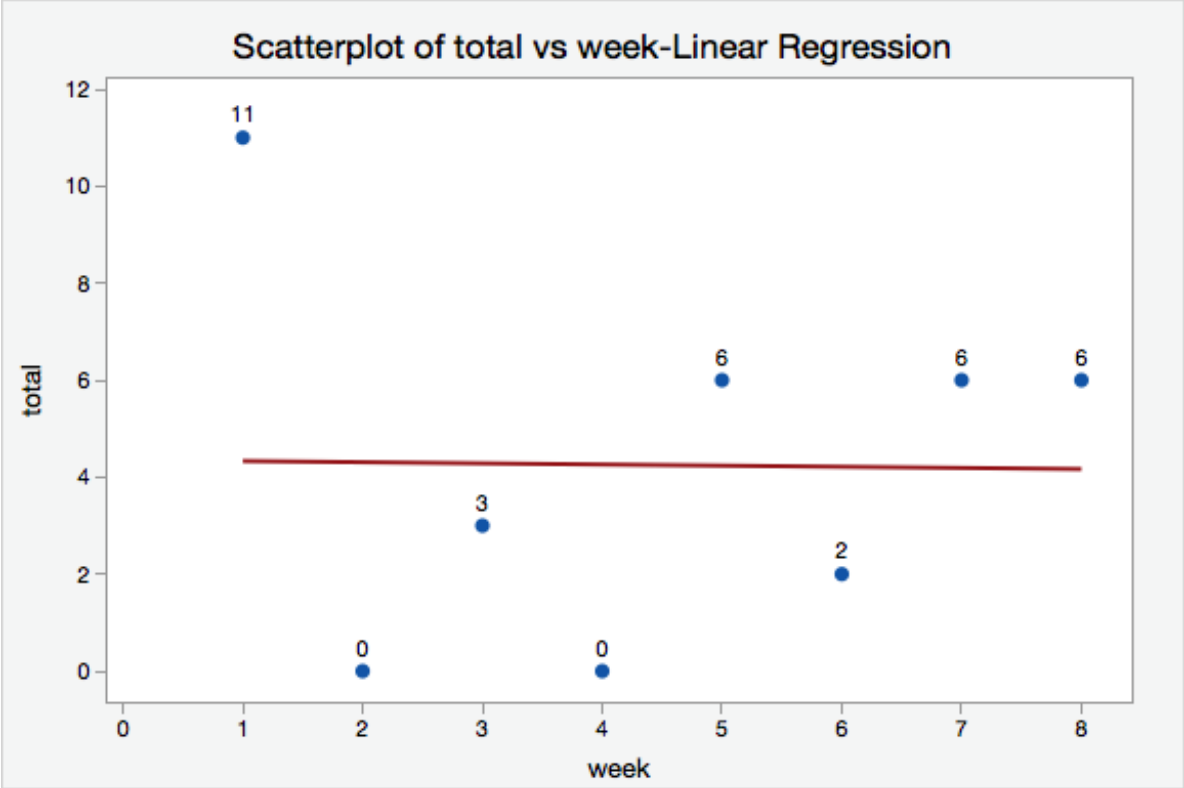
The purpose of this study is to determine whether trauma-aware teachers and school staff can track students' trauma more accurately. The measurement tool is the ACE's quiz developed by Dr. Vincent Felitti who worked for the Kaiser Permanente Group. The study will compare the reports of trauma incidents on a weekly basis using the criteria in the ACE's quiz.

The data collected was the frequency in which the ten types of trauma, as defined by the adverse childhood experience test, occurred. The school counselors, who are the Students' confidants, recorded every occurrence of trauma over an eight-week period. Regression equations, which included linear, quadratic, and cubic models were constructed to best determine patterns in trauma based on the data. The models were also analyzed on how well they fit the data in order to use the model that best predicted the observed values. The types of trauma that occurred most were also analyzed on a weekly basis to explain the reason for grouping weeks one through four and weeks five through eight. The null hypothesis is that there will be no discernable pattern of total trauma reports across eight weeks. The results are shown below.

Table 1. Weekly Data by Type and Total Counts

| | Mental Abuse. | Physical Abuse. | Sexual Abuse. | Mental Neglect. | Physical Neglect. | Truama based on divorce or seperation. | Witness domestic violence. | Witness drug or alcohol abuse. | Lives with a mentally ill person. | Household member incarcerated. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| week | ment | phys | sex | ment neg | physn eg | divorce | domviol | drugs | mentill | jail | total |
| 1 | 5 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 11 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 6 |
| 6 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 6 |
| 8 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 6 |

Figure 1. Linear Fit of Weekly Trauma Counts

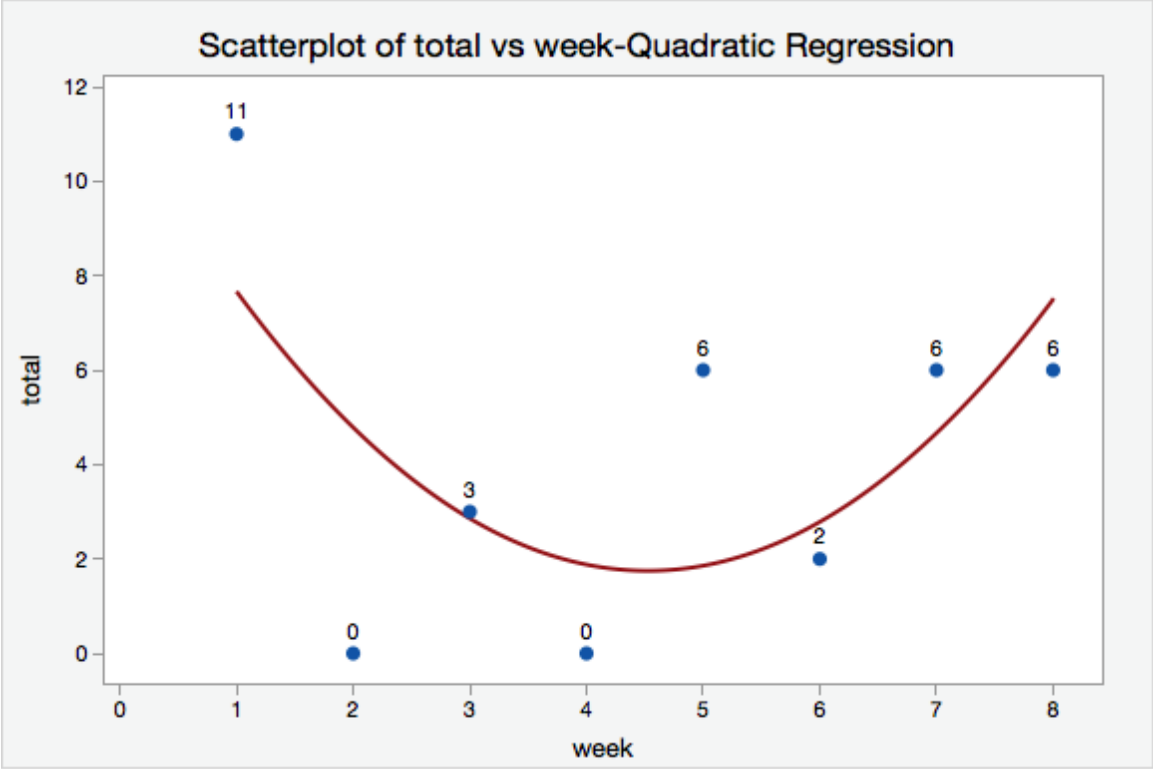



Regression

| R-sq | Equation |
|---|---|
| 0.02% | Total = 4.35714 − 0.0238095 week |

A linear fit with near zero slope is equivalent in this case to a null hypothesis. That is, over the eight weeks of the study there is no discernible trend across time. This is likely due to the existence of a non-linear pattern rather than the lack of a time trend.

Figure 2. Quadratic Fit of Weekly Trauma Counts

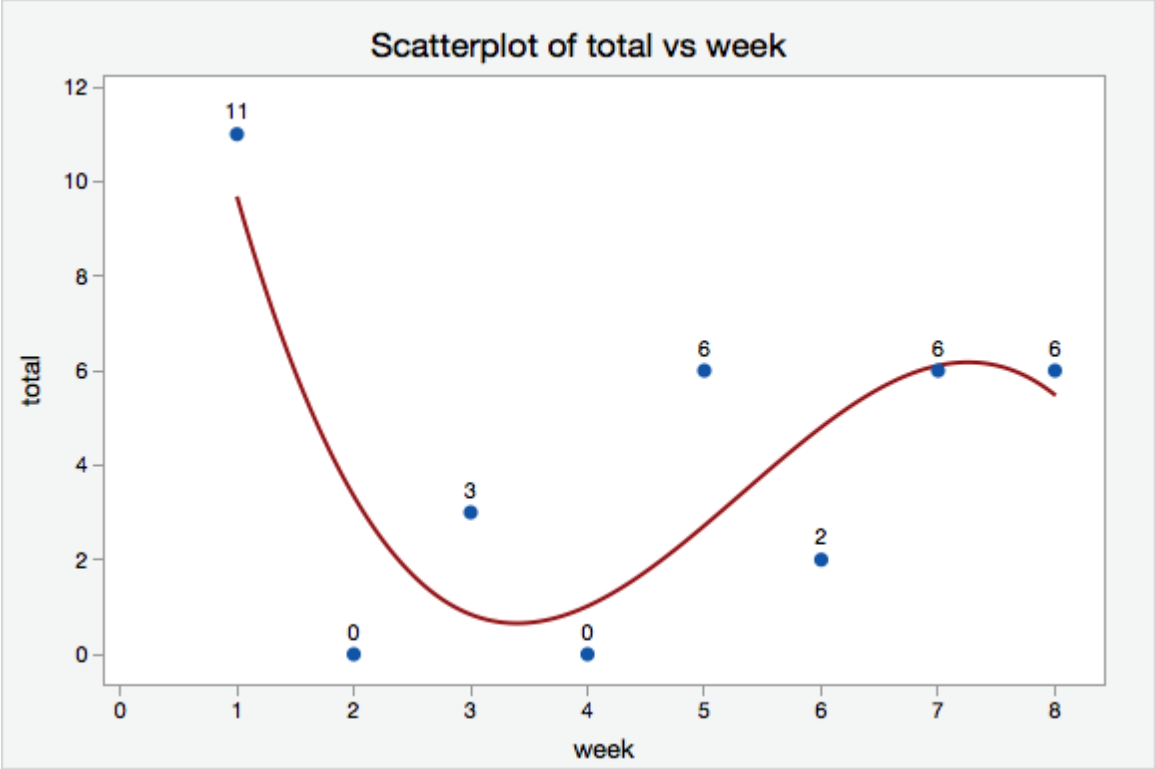



Regression

| R-sq | Equation |
|---|---|
| 39.10% | Total = 11.5 – 4.30952 week + 0.476190 week$^2$ |

The quadratic regression explains 39% of the variation in total trauma counts across the eight weeks. The quadratic pattern shows a four-week decline in reported traumas after a first-week high, followed by a four-week upturn in the number of reported traumas.

Figure 3. Cubic Fit of Weekly Trauma Counts




Regression

| R-sq | Equation |
|---|---|
| 61.54% | Total = 21 − 14.1934 week + 3.06710 week$^2$ − 0.191919 week$^3$ |

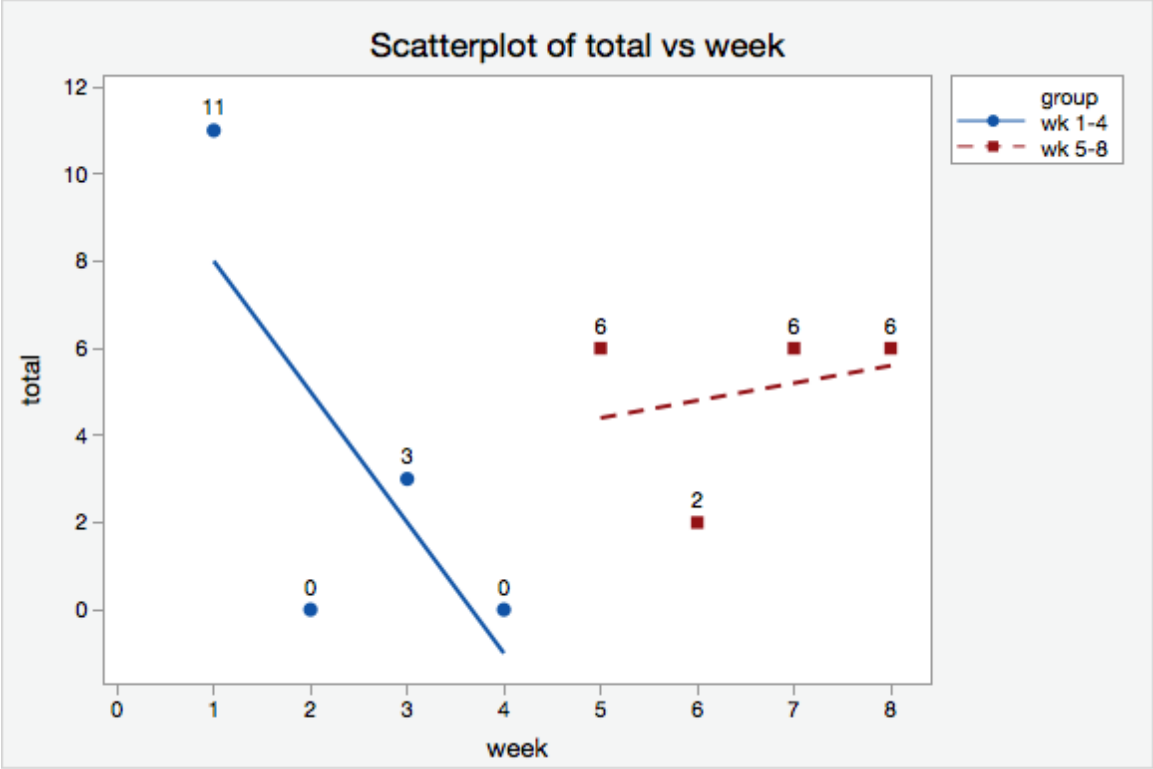
The cubic regression explains 62% of the variation in total trauma counts across the eight weeks. Applying the cubic pattern, the four-week decline is followed by a three-week uptick that appears to be headed for another drop after the 8$^{th}$ week. That cannot be verified, however, as the data collection ended after eight weeks.

Table 2. Weekly Modal Trauma Types

| Week | Modal Trauma |
|---|---|
| 1 | Mental Abuse |
| 2 | None |
| 3 | None |
| 4 | None |
| 5 | Mental Abuse & Drugs |
| 6 | None |
| 7 | Live with mentally ill person |
| 8 | Divorce & Domestic Violence |

Table 2 shows the type of trauma(s) that occurred most frequently in each of the eight weeks that data was collected. With the exception of week one, the first four weeks showed at most three counts of trauma. This indicates that weeks one through four did not show a discernable pattern, while weeks five through eight showed more consistent trauma reporting spread evenly through the weeks. Therefore, figures 4 through 6 fit separate regressions lines for each group of four weeks.

Figure 4. Linear fits for weeks 1-4 and 5-8

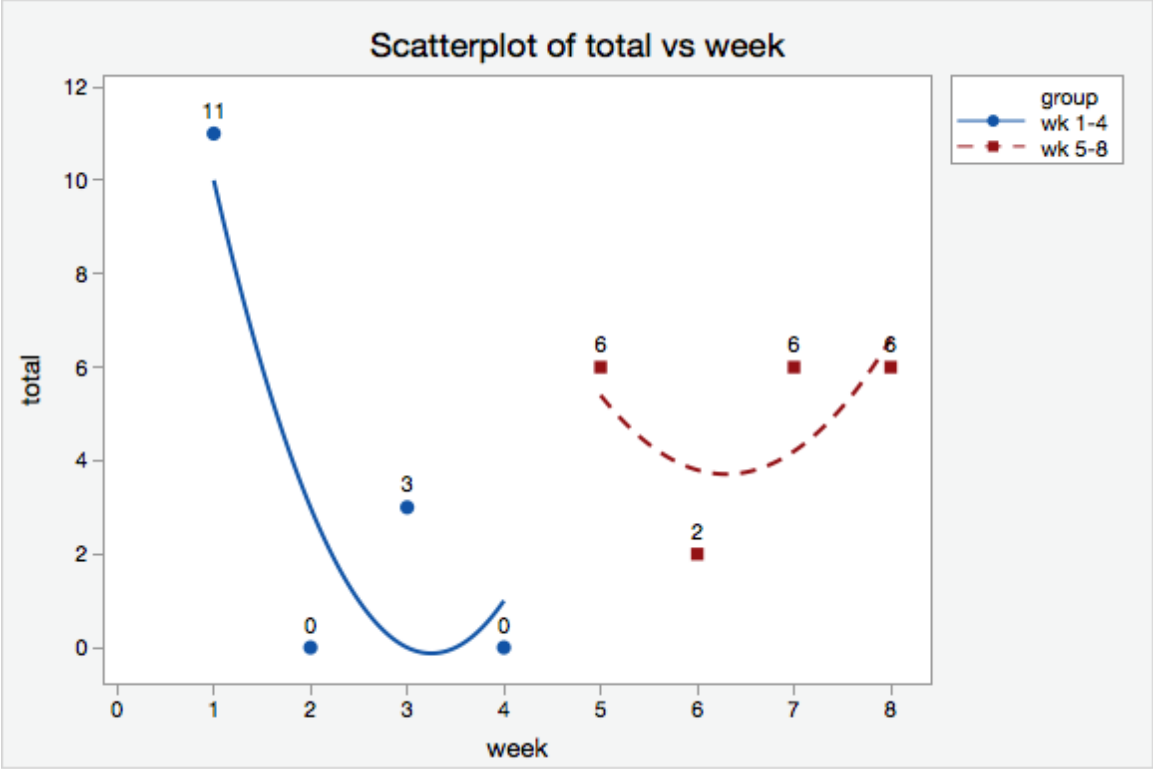



Regression

| group | R-sq | Equation |
|---|---|---|
| wk 1-4 | 55.56% | total = 11 − 3 week |
| wk 5-8 | 6.67% | total = 2.4 + 0.4 week |

Weeks one through four display a negative (inverse) slope, while weeks five through eight show a slight positive slope. Linear regression explains 56% of the variation in reported traumas in weeks one through four, but only 7% in weeks five through eight. Thus, weeks one through four were characterized by more volatility, while weeks five through eight were more stable with an upward pattern for the number of reported traumas.

Figure 5. Quadratic Fits for weeks 1-4 and weeks 5-8

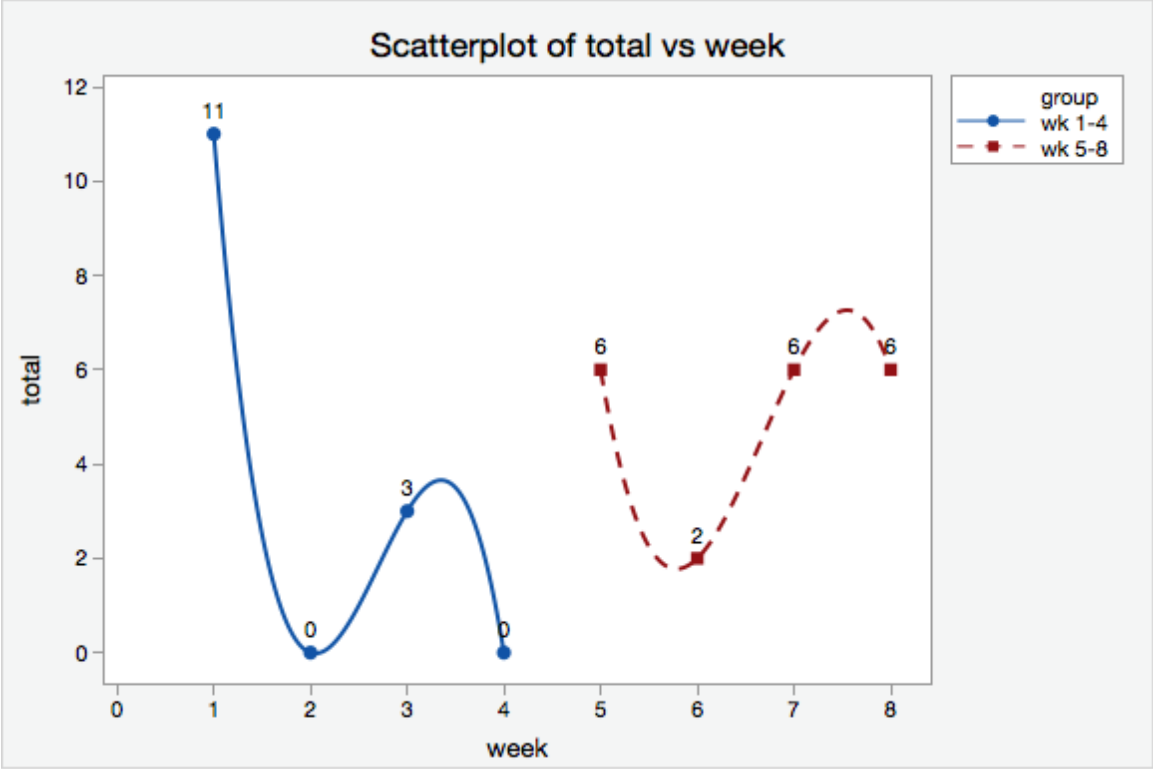



Regression

| group | R-sq | Equation |
|---|---|---|
| wk 1-4 | 75.31% | total = 21 − 13 week + 2 week$^2$ |
| wk 5-8 | 40.00% | total = 43.4 − 12.6 week + week$^2$ |

Fitting quadratic equations yields 75% of the variation explained by weeks one through four and 40% explained in weeks five through eight. The quadratic regression models upturn after the third week of both sequences.

Figure 6. Cubic Fits for Weeks 1-4 and Weeks 5-8




Regression

| group | R-sq | Equation |
|---|---|---|
| wk 1-4 | 100.00% | total = 56 − 68.6667 week + 27 week$^2$ − 3.33333 week$^3$ |
| wk 5-8 | 100.00% | total = 566 − 262 week + 40 week$^2$ − 2 week$^3$ |

The cubic regression equations provide a perfect fit to weeks one through four and weeks five through eight, respectively. For the first four weeks, there were an average of 3.5 reported traumas per week, influenced greatly by week one. For weeks five through eight, the mean number of reported traumas was five. These patterns support the notion that the reporting of traumas was higher during the second half of the study.

The data shows two four-week periods of reported traumas, modeled best by cubic (third degree) regression equations of weekly traumas over time. With the exception of week one, the second four-week period had higher overall reported traumas

than the first period. The time-related patterns may provide evidence for the efficacy of the professional development provided for faculty.

# CHAPTER V

# DISCUSSION

The original hypothesis was the number of traumatic events reported by the counselor's office will increase after teachers become trauma informed with professional development and are given time to form relationships with their students. The data would indicate that this research hypothesis was confirmed.

## Implications of the Results

The data indicates that through the second half of the data collection period, there was a noticeable consistency and upturn in number of incidents reported in the school. The first half of the data was not consistent and had multiple weeks of no reported incidents of trauma. This indicates a correlation with the number trauma reports and teacher awareness, coupled with time for forming professional relationships with students.

The data would also counter the null hypothesis; which is that there will be no discernable pattern of total trauma reports across eight weeks. Firstly, the cubic model perfectly correlated with the data when broken into two different periods. This indicates a clear pattern that models the pattern of trauma awareness across time and that could be used to predict future data. Secondly, table two, which presented the weekly modal types of trauma, indicated that there is a pattern of certain types of trauma occurring more frequently than others. The combination of the two analyses indicates that the null hypothesis does not hold and confirms the original research hypothesis.

Since the data did support the research hypothesis, it has numerous implications within the field of education. Firstly, educational establishments need to be more

proactive in educating current and future educators on signs and symptoms of students who face traumatic events. Educators, even ones recently removed from universities, are commonly unaware of the studies and results from trauma-based research. When educators are all trauma informed, they can more accurately track, understand, and combat trauma related incidences that plague their schools.

## Theoretical Consequences

Theoretical consequences to a more trauma informed classroom are more accurate statistics, healthier students, and higher academic achievement. The results do show that teachers who are more aware will be able to identify students displaying trauma symptoms, thus be able to more accurately track the number of students experiencing these events. Teachers who are also more aware of trauma are able to create environments in their classroom that help students experiencing traumatic events feel safer. This in turn is leading to physically and mentally healthier students, while increasing their academic achievement. This was documented in the research by Siddiqui et al. (2017), when they identified, addressed, and analyzed the Army Public Schools needs based on the trauma experienced.

## Threats to Validity

Threats to validity are common in research studies, but using the entire school population and using an unbiased data collection method are examples of how validity was preserved. However, there are several threats to validity in the study that should be mentioned.

The time for data collection is one of the biggest threats to validity within the research. The data was collected over an eight-week period, which if more time was

allowed, there could have been different patterns and trends that developed in the data. The data could also be affected by seasonal factors, well known holidays like Thanksgiving and Christmas can be very stressful on family dynamics and cause more incidences to be reported. This could have changed the dynamic of the research, however the researcher believes that the data would continue to increase and, as such, the cubic model is still a good predictor.

The population that was sampled is another concern to validity. Although the entire school was sampled, the school is made up of ninety percent white students, of which only nine percent are in the free and reduced lunch program. While traumatic events are not exclusive to any one demographic, this is a homogeneous population and the study may have benefitted from wider diversity.

## Connections to Existing Literature

While awareness to trauma is increasing among educators, we already know the harmful effects it is causing our students. According to Bellis et al. (2017), health-harming behaviors such as smoking, drug use, low nutrient diets, altering of brain developments, etc., have all been associated with people exposed to traumatic events. They go on to propose that long term exposure can lead to cancer, premature mortality, adverse effects on cognitive functions, and school performance. Educators need to be aware and help combat these effects from becoming long lasting.

Siddiqui et al. (2007) proposed a few interventions that would help combat the common symptoms presented from trauma subjects. They suggested that people who feel unsafe or fearful be given a designated safe place to talk about their stresses. Another

example was to maintain a routine that was agreed upon that would allow the student to have a sense of control and stability.

Educators can follow the guidance from this research while having little disruption to everyday routine. Simply being aware of trauma and the symptoms and being proactive and retroactive, using the interventions defined by researchers, can make all the difference in a student's life.

## Implications for Future Research

If the study were to be implemented again there would be some changes to increase validity and reliability. The study should be longer, potentially a full year this would allow for more accuracy in data collection. The sample size should be larger and more diverse. The purpose of this study is so pervasive in every lifestyle that this study could potentially be facilitated at a global scale. However, a more realistic scenario would be to concentrate on schools that vary in grade level and demographics.

Lastly, the study should strive to track long term data that is correlated with the original study. Things like referral rates in schools, academic achievement on school and state benchmarks, and results of school climate surveys should be analyzed to look for correlating trends. There are wide reaching effects of this study that should be continued to be researched and acted upon.

## Conclusions

In conclusion, even with some of the validity issues, the hypothesis was upheld and confirmed by the research. Trauma is a topic in education that will not be ignored,

nor should it. It is evident that trauma-aware teachers can help maintain the physical and mental health, academic achievement and behavior of students in every school. Overall, the study shows that there was a clear benefit to the school and that further training and awareness could greatly impact a student's life.

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## Appendix

**Adverse Childhood Experience (ACE) Questionnaire**

**Finding your ACE Score**

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

1. Did a parent or other adult in the household **often** …

Swear at you, insult you, put you down, or humiliate you?

**Or**

Act in a way that made you afraid that you might be physically hurt?

Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often** …

Push, grab, slap, or throw something at you?

**or**

**Ever** hit you so hard that you had marks or were injured?

Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever**…

Touch or fondle you or have you touch their body in a sexual way?

**or**

Try to or actually have oral, anal, or vaginal sex with you?

Yes No If yes enter 1 _____

4. Did you **often** feel that …

No one in your family loved you or thought you were important or special?

**or**

Your family didn't look out for each other, feel close to each other, or support each other?

Yes No If yes enter 1 _____

5. Did you **often** feel that …

You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?

**or**

Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?

Yes No If yes enter 1 _____

7. Was your mother or stepmother:

**Often** pushed, grabbed, slapped, or had something thrown at her?

**or**

**Sometimes or 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 No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill or did a household member attempt suicide?

Yes No If yes enter 1 _____

10. Did a household member go to prison?

Yes No If yes enter 1 _____

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