TEACHER BELIEFS AND ADVERSE CHILDHOOD EXPERIENCES

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ABSTRACT

In the teaching profession, educators are often left to intervene with behaviors and developmental concerns associated with adverse childhood experiences (ACEs). In order to maintain a productive classroom, teachers must show self regulation, resilience, and sensitivity to their students' adverse childhood experiences. Many teachers intervening with these concerns have experienced ACEs themselves. Little research has been completed on the number of ACEs teachers report related to personal beliefs of student classroom behaviors or resilience. This study is significant because research shows increased achievement in the area of behavior and academics when trauma sensitive practices are implemented in schools (Sporleader & Forbes, 2016). This study used Spearman rank order correlation coefficients to show the relationship between resilience, sensitivity, and self regulation beliefs among 225 teachers in southwest Iowa. The results show all three values as statistically significant. Implications from the research show's when looking at traditional classrooms, teachers are expected to run their day based on an academic focus. This study shows a significant relationship between the importance of

social emotional needs of both the adults and the students in the classroom. In addition,

self-awareness for teachers in the areas of resiliency, sensitivity, and self regulation

related to their own experiences indicates professional development in these areas may

benefit the students and adults.

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Chapter 1: Introduction of the Problem

The Adverse Childhood Experiences (ACE) study undertaken in the late 1990s provided the impetus for the development of trauma informed practice frameworks in the United States from the early 2000s (Anda et al., 2006). Adult participants ($n = 17,337$) responded to questionnaires about eight adverse childhood experiences. Three adverse childhood experiences were child related (emotional, physical, sexual abuse) and five were related to household dysfunction (substance abuse, mental illness, mother treated violently, incarcerated household member, parental separation or divorce). The findings demonstrated a graded relationship between the number of adverse events and 18 negative adult outcomes across multiple domains including physical and mental health, substance abuse, impaired childhood memory, and sexuality. As the ACE score increased so did the mean number of comorbid outcomes. This research identified high rates of exposure with at least one ACE reported by 64% of respondents and 20.9% reporting four or more. (Anda et al., 2006) The results are noteworthy because the sample was drawn from a Health Appraisal Center, providing preventative health evaluations for a relatively affluent population. Anda et al. (2006) argued that comorbid conditions had a common aetiology based in childhood maltreatment and that understanding this connection has the potential to generate multidisciplinary approaches to studying and improving human wellbeing. (Atwool, N. , 2019). In the United States, half of the nation's total student population have experienced, or are currently experiencing, trauma, violence, or chronic stress (Balistreri, 2015).

The implications of the adverse childhood experience study have trickled down to the education field. Although it began as a health related study, the results demonstrate the importance of understanding childhood experiences in youth and show the importance of finding mitigating interventions to help reduce trauma in children's lives. Understanding the science behind the study, the keys to protective factors when working with children who may have experienced trauma, and the knowledge of the ten adverse childhood experiences in general can be significant to the teaching profession.

In the teaching profession, educators are often left to intervene with behaviors and developmental concerns associated with adverse childhood experiences. In order to maintain a productive classroom teachers must show self regulation, resilience, and sensitivity to their students' adverse childhood experiences. Many teachers intervening with these concerns have experienced trauma themselves.

In her book, *Collective Efficacy: How Educators' Beliefs Impact Student Learning*, Jenni Donohoo writes, "Students display a wide range of behavior problems in schools including property destruction, physical aggression, disruptive talking in the classroom, and name calling on the playground. Disruptive behavior can have negative effects on the student's own and all other students' achievement. Dealing with the problem behavior is one of the most difficult aspects facing school staff today. It can leave staff feeling overwhelmed. It affects stress levels as well as teacher to student relationships and teacher to parent relationships. When considering its impact on student achievement, decreasing disruptive behavior has an effect size of 0.34." (Hattie, 2012)

This study looks at the effects of teacher beliefs in the area of resilience, sensitivity, and self regulation. Resilience is the ability for an individual to bounce back when facing adversity, distress, or trauma and shows a higher knowledge of resilience which leads to empathy and increased self regulation when reacting to inappropriate student behavior. Teacher sensitivity refers to the extent to which teachers display awareness of academic and emotional student needs and respond to those needs (Buhs, E., Rudasill, K., Kalutskaya, I., & Griese, E. (2015). Self regulation is the ability for an individual to connect with students and show flexibility and adaptability of human behavior. It enables students and teachers to adjust their actions to a broad range of social and situational demands. If teachers become self aware of these three factors in the classroom, increased engagement and decreased dysregulated student behaviors may occur for students providing additional gains emotionally and academically.

Harris and Fallot (2001) make a distinction between trauma specialist services designed to provide therapeutic intervention for those known to have experienced trauma compared to trauma-informed services. The latter are services that regardless of their primary purpose (e.g., mental health or addiction) demonstrate a commitment to provide services mindful of the specific needs of trauma survivors. They argue that this requires a paradigm shift and an organizational response (Harris, M., & Fallot, R. D., 2001). Trauma sensitive practices in school settings can significantly increase academic success (Sporleader & Forbes, 2016). Neuroscientific studies show children and adolescent brains are malleable and can recover from traumatic events if given the correct environment (Thompson, 2015). The field of education can be very stressful and possibly

trigger behaviors related to personal childhood. This study shows how individual teacher ACE scores correlate to personal self regulation, resilience, and sensitivity regarding their reaction based on beliefs of student classroom behaviors.

Five factors are relevant to the development of adaptive or resilient functioning: 1) constructive attachments to other people that involve emotional support and encouragement, 2) the development of intellectual skills, increased knowledge, and increased problem solving abilities, 3) the ability to regulate emotions and cognitions, 4) the motivation to master new skills, take action to aid goal achievement, and recognize the rewards available for hard work, and 5) the ability to see beyond current difficulties and have hope or faith in change, and find meaning in life (Masten 2014; Khrapatina, I., & Berman, P. (2017).

Trauma informed approach programs have been researched and implemented in many countries, including the United States. The national Substance Abuse and Mental Health Services Administration (SAMHSA), part of the U.S. Department of Health and Human Services, has developed a framework for a trauma-informed approach (SAMHSA, 2014). Many mental health professionals draw on the SAMHSA guidelines and a number of common themes emerge, all draw attention to the importance of understanding behavior through a trauma lens and the need for training to ensure that frontline workers have the capacity to recognize that a service user may have experienced trauma. Connection and safety are emphasized as the critical components of effective intervention, and strengths-based models of practice that enhance resilience and empowerment are supported. The importance of an organizational context committed to

trauma-informed practice at all levels is acknowledged (Atwool, N., 2019). As teachers begin to understand a trauma informed approach they must also recognize their own ACE scores and determine how they will react to student behaviors, related to adverse childhood experiences, within their own classrooms. This study looks at the relationship between a teacher ACE score and their perception, based on their beliefs, to self-regulate, show resilience, and be sensitive to students with dysregulated behaviors.

Reasons Why the Study is Significant

Little research has been completed on the number of ACEs teachers report related to personal beliefs of student classroom behaviors or resilience. The purpose of this study is significant because research shows increased achievement in the area of behavior and academics when trauma sensitive practices are implemented in schools (Sporleader & Forbes, 2016). As a teacher, if you are a victim of trauma, you may react differently to students who have adverse childhood experiences based on your own previous experiences. This study could be the beginning of a new research base related to adult ACEs in the educational field and spark new professional learning for all teachers.

According to ACES 360 trauma research study done in Iowa adults who experienced four or more ACEs indicate a significant level of childhood trauma that greatly increases the risk of poor outcomes. Those experiencing four or more ACE's compared to those with zero are 1.47 times as likely to have cancer, 1.88 times as likely to have diabetes, 2.38 times as likely to have arthritis, 3.11 times as likely to have a stroke, 4.29 times as likely to have COPD, and six times as likely to have depression. These statistics show the impact of health related issues on adults following a traumatic

childhood. This study shows the impact of the teachers who participate and their beliefs in the areas of sensitivity, resilience, and self regulation as they relate to the number of ACEs reported.

Statement of Problem

<u>Element of Inquiry</u>

How do teachers' Adverse Childhood Experience (ACE) scores correlate to their personal beliefs of student resilience, sensitivity, and self regulation in the classroom?

<u>Research Questions:</u>

1) How do Teacher ACE scores correlate to a teacher's personal belief about self regulation?

2) How do Teacher ACE scores correlate to a teacher's personal belief about resilience?

3) How do Teacher ACE scores correlate to a teacher's personal belief about sensitivity to individual student academic and/or emotional needs?

Operational Definitions

Mental health: Mental health refers to students' psychological, social, and emotional well being in which individuals realize their own abilities, can cope with stressors, and contribute to their community (Murray-Harvey, 2010; WHO, 2009).

Trauma sensitive: Trauma sensitive is a shared understanding among educators, administrators, and school staff that the adverse experiences in the lives of children are common, and that trauma can impact learning, behavior, and relationships at school (traumasensitiveschools.org, October 2019). According to the Substance Abuse and Mental Health Services Administration (SAHMSA), part of the U.S. Department of

Health and Human Services, a trauma informed approach refers to how an organization

or community thinks about and responds to children and adults who have experienced or

may be at risk for experiencing trauma. In this approach, the whole community

understands the prevalence and impact of ACEs, the role trauma plays in people's lives,

and the complex and varied paths for healing and recovery. For the purposes of this

study, trauma sensitive and trauma informed will have the same definition.

Adverse childhood experiences (ACEs): ACEs are stressful or traumatic events,

including abuse and neglect. They may also include household dysfunction such as

witnessing domestic violence or growing up with family members who have substance

use disorders. ACEs are strongly related to the development and prevalence of a wide

range of health problems, including those associated with substance misuse. Specific

ACEs include physical, sexual, and emotional abuse; emotional neglect; intimate partner

violence; substance misuse; household mental illness; parental separation or divorce; and

death or incarceration of a parent or caregiver (Anda, et al., 2010).

Self regulation: Self regulation is one's capacity for altering one's behaviors. It greatly

increases the flexibility and adaptability of human behavior, enabling people to adjust

their actions to a remarkably broad range of social and situational demands. It is an

important basis for the popular conception of free will and for socially desirable behavior.

It provides benefits to the individual and to society, and indeed good self-control seems to

contribute to a great many desirable outcomes, including task performance, school and

work success, popularity, mental health and adjustment, and good interpersonal

relationships (Baumeister, Heatherton, & Tice, 1994; Duckworth & Seligman, 2005;

Mischel, Shoda, & Peake, 1988; Shoda, Mischel, & Peake, 1990; Tangney, Baumeister, & Boone, 2004; Wolfe & Johnson, 1995). Self regulation is the individual adaptation of self capacity, flexibility, adaptability, enabling, adjusting, and socially desirable behavior to alter behavior and display self control as represented by the score on the Self regulation/Resilience/Sensitivity scale developed for current study.

Teacher Sensitivity: Teacher sensitivity refers to the extent to which teachers display awareness of academic and emotional student needs and respond to those needs. (Buhs, et al., 2015). Teacher sensitivity is the ability for an individual to display awareness with academic and emotional needs and to respond to the emotional needs as represented by the score on the Self regulation/Resilience/Sensitivity scale developed for current study.

Resilience: Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress — such as family and relationship problems, serious health problems or workplace and financial stressors. Five factors are most relevant to the development of adaptive or resilient functioning: 1) constructive attachments to other people that involve emotional support and encouragement, 2) the development of intellectual skills, increased knowledge, and increased problem solving abilities, 3) the ability to regulate emotions and cognitions, 4) the motivation to master new skills, take action to aid goal achievement, and recognize the rewards available for hard work, and 5) the ability to see beyond current difficulties and have hope or faith in change, as well as to find meaning in life (Khrapatina, I., & Berman, P. , 2017). Resilience is the ability for an individual to adapt, adjust and bounce back, as well as, display behaviors and thoughts that are learned and developed, in regards to student

dysregulation in the classroom. Resilience is represented by the score on the Self

regulation/Resilience/Sensitivity scale developed for current study.

Regulated behavior: Emotion regulation is a multidimensional construct involving 1.)

awareness, understanding, and acceptance of emotions; 2.) an ability to engage in

goal-directed behaviors—and also refrain from impulsive behaviors—when experiencing

negative emotions; 3.) use of conditionally appropriate strategies to modulate the

intensity and duration of emotional responses; and 4.) an ability to recognize negative

emotions as part of pursuing meaningful activities in life (Gratz & Gunderson, 2006;

Gratz & Roemer, 2004).

Dysregulated behavior: The Emotional Cascade Model (ECM) by Selby et al. (2008)

proposes that the relationship between aversive emotions and behavioral dysregulation is

explained by a self perpetuating cycle of rumination, negative thoughts, and negative

affect. Excessive rumination leads to a strong negative affective state, in which negative

emotional stimuli attract attention and increase rumination, which in turn progressively

exacerbates negative affect (Selby et al., 2014). This emotional cascade results in

extreme, aversive, emotions and weakens the ability to turn one's attention away from it.

Finally, these emotions can be overwhelming, and it may be difficult to interrupt this

cycle by functional and harmless means (e.g., reappraisal and distraction). Instead, people

may use intensive types of behavioral emotion regulation (ER) to distract from

rumination, many of which are harmful.

Purpose Statement

The purpose of this quantitative study is to explore and correlate teachers' personal ACE experience scores and their personal beliefs related to student behavior within the realm of self regulation, resilience, and sensitivity. This study will contribute to research examining teacher beliefs in social, emotional, and behavioral learning as it relates to their personal adverse childhood experience score and personal beliefs aligned with the proposed defined abstracts of resilience, sensitivity, and self regulation. Little research has been completed on the number of ACEs teachers report correlated to personal beliefs related to student classroom behaviors or resilience. This study is significant because research shows increased achievement in the areas of behavior and academics when trauma sensitive practices are implemented in schools (Sporleader & Forbes, 2016). As a teacher, if you are a victim of trauma, you may react differently to students who have adverse childhood experiences based on your own previous experiences. This study could be the beginning of a new research base related to adult ACEs in the educational field and spark new professional learning for all teachers.

Chapter 2: Review of Literature

This chapter addresses the importance of the study by reviewing the current

statistics on trauma sensitive care. It will focus on literature addressing the need for

solutions within the classroom setting. The study defines a plan to address the

importance of understanding the history and effects of childhood trauma as it relates to

the significance of teachers affected by childhood trauma. The study addresses the

resilience needed to become a classroom teacher who experienced trauma. It discusses

the research on child development and trauma, the neuroscientific effects on children

experiencing trauma and implications for teachers and students in classrooms today.

Last, the study adds the importance of building trauma responsive schools as this affects

children, teachers, parents, and communities through ongoing professional development.

Introduction

The Adverse Childhood Experiences Study (ACE Study) is an ongoing research

study conducted through the collaboration of Kaiser Permanente and the Centers for

Disease Control and Prevention. The study shows a direct correlation between ACEs and

health and social problems as an adult (Sporleder and Forbes, 2016). There is a direct

link between childhood trauma and adult onset of chronic disease, as well as mental

illness, doing time in prison, and work issues, such as absenteeism (Sporeleder and

Forbes, 2016).

The significance of the ACE Study as it relates to schools is that children who are

exposed to multiple ACEs are overloaded with stress hormones which leave them in a

constant state of survival. This makes the absorption of new academic material much

more challenging and puts these students in a difficult place to handle rules and authority figures (Sporleader and Forbes, 2016). Studies have shown that students with three or more ACEs are three times as likely to fail academically, five times as likely to struggle with attendance, and six times as likely to show behavioral problems (Sporleader and Forbes, 2016). Children with high ACE scores live much of their lives in the fight, flight, or freeze mode and respond to issues with constant fear. Due to this, as they mature into adults, their brains have been wired differently and stress hormones are produced much quicker than those who understand the difference between tolerable stress and toxic stress. If a child with high ACE scores becomes a teacher they may react to stress in the classroom in a different manner due to childhood experiences.

ACEs are adverse childhood experiences that harm children's developing brains and change how they respond to stress, damaging their immune systems so profoundly that the effects show up decades later. ACEs cause much of our burden of chronic disease, most mental illness, and are at the root of most violence (Anda et al., 2006).

The term ACEs comes from the CDC-Kaiser Adverse Childhood Experiences Study, a groundbreaking public health study that discovered that childhood trauma leads to the adult onset of chronic diseases, depression and other mental illness, violence and being a victim of violence, as well as financial and social problems. The ACE Study published approximately seventy research papers since 1998 creating additional data related to the long term physical and mental health effects of childhood trauma on children and adults.

ACEs are responsible for the majority of workplace absenteeism and costs in health care, emergency response, mental health, and criminal justice. The ACE study found that childhood adversity contributes to most of the United States' major chronic health, mental health, economic health and social health issues. Another key finding shows that individuals with four or more ACEs have a significant increase in physical health ailments including but not limited to cancer, diabetes, and heart issues. On a population level, it does not matter which four ACEs a person has; the harmful consequences are the same. The brain cannot distinguish one type of toxic stress from another; it's all toxic stress, with the same impact (Anda et al., 2006).

For teachers, stress in the classroom due to student behaviors is common. Behavior in students is a multifaceted concept and one must consider several different environments when working with students to promote positive behaviors and reduce negative behaviors. This literature review explores the dimensions which initiate positive or negative behavior and how they affect academic success. Schools that foster supportive conditions for learning and positive school climates can help engage all students in learning by preventing problem behaviors and intervening effectively to support struggling students and those at risk of academic and behavioral problems (Osher, et al., 2015).

The pathways from early adversity to psychosocial problems are complex, but early toxic environments stimulate hyperarousal and overproduction of neurochemicals that activate automated fight, flight, freeze responses and inhibit the natural development and connection of neurons (Anda et al., 2006; van der Kolk, 2006). These changes in the

brain over time can destabilize emotional regulation, social attachment, impulse control, and cognitive processing (Anda et al., 2010; Anda et al., 2006; Whitfield, 1998). This is especially true when children are exposed to chronic and persistent adverse conditions, enabling maladaptive responses to become extremely well rehearsed. Developmental psychopathologists propose that emotional and social adaptations to environmental conditions arise from a reciprocal intersection of thoughts and emotions; we establish a coherence of functioning as a thinking, feeling human being through the meaning we affix to our experiences (Rutter & Sroufe, 2000, p. 265). When previously traumatized clients encounter current stress, they may feel intense and intolerable emotions, and cope with them through negative behaviors (Brown et al., 2012). This is also true for teachers and other helping professionals when dealing with students/clients. If a professional teacher has experienced adverse childhood experiences his/her ability to regulate thoughts and emotions could affect their sensitivity and self regulation in the classroom should a stressful situation arise with one or more students. In addition, the ability to show resilience throughout their adverse childhood experiences may play a part in their reaction to classroom and student stress.

Environmental Factors

Environmental factors affecting student behavior include but are not limited to; school setting, home setting, and genetic factors. Behavior may not be isolated to only one environmental factor. For example, a student with attention deficit disorder who struggles to sit in a structured school setting for long periods of time could also be affected by school and genetic settings. Within this scenario, the student may also show

behaviors in the home if the environment is not structured. Negative behaviors in each of these environments may look similar or varied based on the child's understanding and coping skills.

As children struggle within and across environments trauma has been seen as a major factor. The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest investigations of childhood abuse and neglect and later life health and well being. The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors. Childhood experiences, both positive and negative, have a tremendous impact on future violence, victimization and perpetration, and lifelong health and opportunity. As such, early experiences are an important public health issue. Much of the foundational research in this area has been referred to as Adverse Childhood Experiences (Metcalf, 2017). Effects of trauma within a childhood experience are shown in a variety of settings. Amidst the school atmosphere new theories of instruction leading to "trauma informed" care are showing positive results. Many of the "traumas" defined by the ACE's study could be related to a genetic, home, or school environment. The more traumatic events a child experiences the less likely she is to see success in the school setting. If a student falls in one or more ACE category it is possible they may exhibit significant negative behaviors. Other students with one or more traumatic events may show no signs of negative behavior and often show positive behaviors.

Because student behaviors, trauma, and mental health continue to trickle adverse effects in the school setting we, as educational leaders, must step in to understand the importance of "teaching" students how to deal with the social/emotional side of their lives. Health and well being have, for too long, been put in a silo, both logistically and philosophically, apart from school and education. Rarely has health been included in or required to be an integral part of the school's educational process. But when it has, the results have been surprising: Schools that work purposefully toward enhancing the mental, social, emotional, and physical health of both their staff and students frequently report the results that principals and administrators want to hear (Valois, R., Slade, & Ashford, 2011).

Student Academic Progress and Behavior

There are many programs created to increase academic success or intervene when progress is lacking. In the area of behavior intervention, these programs rarely tie both academics and behavior together. To fill this gap Green designed the *Collaborative and Proactive Solutions* model (Green, 2010). Within this model Greene promotes the concept that children do well if they can. Many adults feel kids do well if they want to versus if they can. Green believes that the meaning of doing well is not up to the children but up to the adults (parents and teachers) to teach the children what good behaviors are and why they are important for their success. Green believes there is something getting in the way if a child is showing unwanted behavior. This can be changed as adults move to a more supportive role to help children understand what they do well and how to change behaviors if they aren't doing well. In addition, Greene believes in direct

instruction when teaching students how to behave appropriately. Greene uses the example of a student who does not understand letter sounds. A teacher works with the student to help them identify letters, understand sounds, and eventually learn to read. If the instruction does not work, the teacher uses interventions to create a differentiated view of learning. Greene would argue we should do the same with student behavior hence, if they do not know how to act appropriately, how can we blame them? We must teach them, intervene if necessary, and continue the process until the child understands the appropriate behavior.

As discussed earlier, trauma can affect students and cause them to act inappropriately or to show resilience. Greene believes it is possible to teach children, despite the environmental issues they encounter, appropriate behaviors to show success both within and outside of the school setting. A strong correlation exists between academic skills and prosocial behavior and both are equally essential for school success. In addition to student resilience, teachers, who have ACEs, must understand the concept of resilience in order to deal with stressors in the classroom. Professional development on ACEs, self regulation, resilience, and sensitivity can do the same for teachers as Greene's model does for students. Teachers do well if they can.

One model of assessment, teaching, and intervention with students is the Multi tiered Systems of Support (MTSS). Within MTSS (also known as Response to Intervention or RTI) there are three tiers of instruction for students. Tier 1 is universal instruction. Within which all students receive the same instruction. Approximately 80% of the student population understand and achieve at this level. Students who struggle at

the tier 1 level move to tier 2. Tier 2 of the MTSS system is the intervention step. Within this step approximately 10-15% of students who need additional support receive specific interventions based on their needs. The intervention is usually completed in a small group versus a whole class setting. Finally, if a student is unable to comprehend the needed skills at the universal (tier 1) or targeted intervention (tier 2) levels, they are moved to tier 3. This is an intensive intervention model and individual instruction is completed. Most students with an individualized education plan fall into this category. Tier 3 works with 3-5% of the total student population and is done in an extremely explicit manner directed by individual specific needs.

As students show behaviors that are outside of the universal setting (tier 1) they are likely to receive small group instruction at the tier 2 level. McIntosh, Campbell, Carter, and Dickey (2009) have shown that within academic success and behavior there is an emerging view in the field that there exists the need for multiple tier 2 interventions in both academic and behavior support. It is even more critical when considering that special education eligibility may be determined from response to a tier 2 intervention. A lack of student response to a tier 2 intervention may be misconstrued as evidence of a disability when an equally likely explanation may be that there was a poor match between the intervention and the function of the student's behavior. Hence the importance of Greene's theory that children do well if they can. It is imperative to teach the behavior that is lacking.

As the MTSS system increases popularity within the public school setting, it is essential to begin to tie both the academic and behavioral deficits of a child together

when creating a student intervention plan. Dekker, Ziermans, Spruijt, and Swaab (2017) correlated spelling and math achievement with executive functioning in students based on scores from the Behavior Rating Inventory of Executive Function (BRIEF) completed by parents and teachers of 84 first and second graders and discovered mixed results. The main findings showed a correlation between a cognitive working memory measure and parent and teacher reported behavioral working memory counterpart. In addition, all working memory measures were significantly associated with school achievement. Furthermore, both the cognitive shifting and the teacher reported behavioral shifting measures were related to school achievement. This proves behavior and academic success can be tied together.

As students struggle with behavior in school or other settings their primary thoughts may not be tied to academics. If a student is worried about failing in an academic area their behavior may seem lackadaisical when truly they may be unaware of how to cope. Lack of skill and coordination of executive brain processes is a good predictor of both academic and behavioral problems. It is crucial for parents and teachers to be aware that many students with delays will not pick up on these skills for a long time, even when shown repeatedly how to handle them. Patience, redirection, and positive feedback are the keys to both academic and behavioral success (Searle, 2013). Teachers with or without ACE scores who show mastery in self regulation, including sensitivity to student ACE scores, benefit from a positive outcome for dysregulated students during classroom experiences (Sporeleder and Forbes, 2016).

By making simple shifts in how they provide instruction, teachers can reduce the likelihood of challenging behaviors (e.g., disruption) occurring and increase engagement (Sporeleder and Forbes, 2016). This can occur in many ways, but examples include allowing instructional choices, providing mini lessons on student engagement with the instructional lesson, and modeling engagement as the instructor. Providing low intensity strategies to support academic achievement in students with a noted behavior disability shows mixed results. Ennis, et al (2018) focused on the model of instructional choice. It was determined when low intensity strategies were used in an inclusive special education classroom student behavior problems decreased and achievement increased. The study had limitations as it only used two students and the behavioral instructional results were inconsistent between the two students during the first trial. The second trial produced more consistent results. Students in this scenario would be receiving tier 3 interventions. Within this individualized intervention setting one could assume more teacher attention results in better academic and behavioral achievement.

School Climate and Student Behavior

Schools that understand the connection between climate, behavior, and culture seem to have more success academically. Teachers who focus on teaching proper behavior in a classroom find their time is well spent. Using instructional time to model and teach behavior is similar to teaching and modeling literacy or math. The more practice for the student, the easier the concept attainment. Smith, Fisher, and Frey (2015) in *Better than Carrots or Sticks*, have observed that school climate informs the way teachers manage their classrooms. Positive school climate is aligned to increased

achievement, efficacy, and health measures. Positive climate has shown higher math achievement and lower health issues such as lower body mass index scores in elementary students and lower smoking rates in high school students.

Schools that perform well academically and have few behavior problems have systems in place to assess climate and a decision making process to implement when making change. Overall climate within a school setting requires data driven decisions. The first step in this process is to understand what data needs to be collected. In many systems, data includes office discipline referrals, attendance, failing grades, and alternative placements. For example, as schools begin to look at the type and number of discipline referrals by digging deep into the location, intensity, and specific behavior related to each discipline referral, they begin to understand the importance of building capacity within their teachers and students. This, in turn, assists teachers and administrators in determining MTSS interventions. A systematic manner to address behavior data regularly helps building climate, teacher effectiveness and happiness, and overall school achievement.

When data is not used to make decisions, a poor school climate resulting in inadequate academic and behavior results may result. For example, addressing behavior issues in a punitive manner shows minimal results both in reducing discipline issues and increasing academic achievement. Osher, Fisher, Amos, Katz, Dwyer, Duffey, and Colombi (2015) found that schools that build staff capacity and continuously evaluate and then improve a school's discipline policies and practices are more likely to ensure fairness and equity and promote achievement for all students.

The climate of any school reflects three main practices for preventing and managing conflict: peacekeeping, peacemaking, and peacebuilding (Bickmore, 2011). Differences in the way schools implement these can make the climate a strong or weak environment. Schools that are more invested in peacemaking and peacebuilding than peacekeeping seek to transform their efforts by making them part of the explicit, rather than hidden, curriculum (Bickmore, 2011). Peacekeeping is built on the premise that punitive discipline, for example removing aggressive students through suspension or expulsion or having a zero tolerance policy, will make the school social environment more peaceful. Peacemaking efforts can be thought of as problem solving meetings, restorative justice practices, or one on one conversations to understand specific issues. Peacebuilding efforts are lessons built into the curriculum related to social skills, understanding the viewpoints of others, and when to use the skills in the environmental setting. Peacekeeping efforts with a basis of punitive discipline is on the erroneous assumption that removing a few aggressive students through expulsion or temporary suspensions will make the school social environment more peaceful.

Direct Instruction in Behavior Intervention

In addition to understanding the theory behind culture and climate, it is imperative for the school to create a systemic manner in which expectations are taught and reinforced. Students need to learn the same basic behavioral tenets in kindergarten that they learn in sixth grade. Positive Behavior Instructional Supports (PBIS) emphasizes the importance of posting student behavior expectations and the consequences and rewards that occur when expectations are followed or broken. An

additional PBIS concept, teaching within the context the behavior occurs, is imperative for the student to understand context and appropriate behaviors in different settings. For example, when in the lunchroom behavioral expectations may look different than when in the restroom. As the PBIS system is built and progresses, teachers use data to help understand and create change. For example, behavior incident data by location (restroom, lunchroom, hallway, classroom, etc.) assists teachers to understand the interventions needed to improve individual behaviors and overall school climate in a systematic manner. This process promotes a shared understanding of discipline in the school community. As teachers use data for decision making, inter rater consistency occurs because as data is interpreted and entered consistently. districts and schools have multiple opportunities to identify progress and areas for growth. This method also assists in looking at inequities within student populations in the areas of attendance, student office referrals, and academic achievement.

Table 1

Comparison of TSDP and PBIS

Traditional School Discipline Practices	Positive Behavior Intervention Supports
• Preventing problem behaviors with zero tolerance, strict rules, and punishment	• Preventing problem behaviors with positive behavior support
• Quick and easy to apply	• Long-time commitment to planning
• No evidence	• Many evidence-based practices
• Data are not so important	• Data-based decision making
• Functions of behavior are not important	• Functions of behavior are very important
• Focus on inappropriate behavior	• Focus on positive behavior
• Intervention is applied after problem behavior occurred (Consequence based)	• Prevention of inappropriate behavior is the goal (Antecedent based)
• Less preferred	• Steadily increasing usage in schools
• Not based on team	• Team-based
• No need to change school systems	• System changes

Traditional school discipline practices (TSDP) and Positive Behavior Instructional Support (PBIS) are compared in Table 1 (Scheurermann, 2011). Through the comparison in Table 1 it can be inferred that a PBIS program in a school setting provides a systematic process for instruction as it relates to student achievement, positive and negative student behavior, and using data to make decisions. The PBIS system includes intervention taught to all students, teachers, and parents. PBIS focuses on

positive behaviors to understand the root cause of the negative behavior and prevent it from occurring again as opposed to only providing a consequence with no learning.

Within the PBIS framework one of the interventions suggested is called Check-in/Check-out (CICO). CICO is a structured process to assist students with tier 2 and tier 3 concerns in the area of academic or behavior. CICO requires the teacher, student, and parent to create an intervention plan based on individual student needs. From this plan, the student checks in the morning with the adult of their choice, usually someone they trust and feel comfortable talking with. The teacher and student create a goal for the day. At the end of the day the student checks out with the same adult. A quick review of the day, an assessment of the goal, and tasks to be completed by the following school day are discussed. Campbell and Anderson (2011) showed CICO resulted in significant reductions in problem behaviors. In addition, gains in academic achievement were obtained when CICO was implemented. Finally, when implemented over a two year period, with a fidelity check, teachers and staff found the intervention useful and supported.

CICO is one model of direct behavioral instruction. Implicitly teaching behavior lessons in tandem with academic instruction shows more positive than negative results. The topic of direct instruction to change behavior is not highly researched as academic progress seems to be much more of a focus than combining social and emotional or behavioral instruction during lessons. The future of data collection in this area is full of possibilities. Gage, MacSuga-Gage, Prykanowski, Coyne, and Scott (2015) show a clear relationship between effective behavior management and academic performance in early

literacy skills. Gage, et al. (2015) support the importance of behavior management strategies in instructional contexts and that high quality behavior management can have a collateral and meaningful impact on the overall effectiveness of targeted early literacy intervention.

The Collaboration for Academic, Social, and Emotional Learning (CASEL) performed a meta analysis of more than 300 studies of social and emotional learning programs involving nearly 325,000 K-8 students. Children with access to social and emotional learning programs had gains averaging 11 to 17 percentage points higher than those who did not. CASEL also found that the programs studied were effectively implemented by school staff rather than outsiders, "suggesting that these interventions can be incorporated into routine educational practice" (Payton, et al., 2008).

A positive connection between direct instruction of social and emotional concepts, as mentioned previously in Greene's theory of children doing well if they can, has been shown to improve behavior and increase achievement producing positive outcomes. Key points of success include understanding individual needs of the student, combining behavioral, social emotional, and academic instruction, and an understanding of the MTSS process, including interventions and assessments at each tier.

In summary, schools that begin to look at a data driven model, such as PBIS, are much more likely to reduce extensive discipline issues in the educational setting. Discipline problems such as widespread alcohol abuse, drug abuse, and bullying in schools in the late 1990s focused on a weak environment. Schools that are more invested in peacemaking and peacebuilding than peacekeeping seek to transform their efforts by

making them part of the explicit, rather than hidden, curriculum (Bickmore, 2011).

Peacemaking efforts can be thought of as problem solving meetings, restorative justice

practices, or one on one conversations to understand specific issues. Peacebuilding

efforts, similar to the PBIS and CASEL models, are lessons built into the curriculum

related to social skills, understanding the viewpoints of others, and when to use the skills

in the environmental setting.

In conclusion, these studies show a positive relationship between direct

instruction of social emotional concepts related to improved behavior and increased

achievement. The keys, from a teacher standpoint, are to understand the individual needs

of the student, be aware of their own ACE score and beliefs about trauma, know that

academics cannot be isolated, and continue to work on the deficits of the child whether

they be behavioral or academic.

Terms

Toxic Stress: this response can occur when a child experiences strong, frequent, and/or

prolonged adversity such as physical or emotional abuse, chronic neglect, caregiver

substance abuse or mental illness, exposure to violence, and/or the accumulated burdens

of family economic hardships without adequate adult support

(developingchild.harvard.edu, October 2020).

Multi tiered Systems of Support (MTTS): a framework that helps educators provide

academic and behavioral strategies for students with various needs. MTSS grew out of

the integration of two other frameworks; Response to Intervention (RTI) and Positive

Behavior Behavior Interventions and Supports (PBIS). As part of the Individuals with

Disabilities Act (IDEA), updated by Congress in 2004, this model was used as a tool to improve educational outcomes for students at every school age level, including those with and without a disability (pbisrewards.com, July 2019).

School Climate: The National School Climate Center refers to school climate as "the quality and character of school life. School climate is based on patterns of students', parents, and school personnel's experience of school life and reflects norms, values, interpersonal relationships, teaching and learning practices, and organizational structures" (schoolclimate.org, July 2019).

Student Behavior: The Oxford Dictionary defines student behavior as "the way one acts or conducts oneself, especially around others; the way in which a person acts in response to a particular situation or stimulus (Oxford Dictionary, 2019).

Framework

Several studies on ACEs have found associations between childhood trauma and resilience. Stamper-Balistreri (2015) discovered over half (53%) of United States children ages 6-17 experienced some adverse experience during childhood. Over a quarter (28%) had at least two adverse experiences, while 15% experienced three or more. According to Stamper-Balistreri (2015), children exposed to adverse childhood experiences have lower well being, but access to a medical home, defined as wrap around mental and physical assistance, protects children from increasing exposure. In the United States, half of the nation's total student population have experienced, or are currently experiencing, trauma, violence, or chronic stress (Balistreri, 2015). The children stated in the Balisteri study could now be adults in the field of education.

As the field of education continues to become more stressful on teachers the effect of the stress could manifest in many different individual ways. If a teacher has a high ACE score the flight, fight, or freeze mode of their reaction could occur quicker than with a teacher with a low ACE score. Within the classroom setting possible triggers of traumatic events could cause reactions different from teachers who have not experienced an ACE.

As interest in mental health and social emotional learning increases in the field of education, the ACEs study becomes extremely relevant because it shows that having more than one adverse childhood experience and affect people in adulthood. If we can prevent ACEs among our students and help teachers cope with the consequences of their own ACEs many educational and social factors may improve. If teachers understand the concepts of trauma sensitivity within their own lives and can pinpoint strategies they used to become resilient and thrive this could impact the lives of students in their classrooms. If teachers do not understand the impact ACEs could have had on their personal lives or their student's lives reactions to student behaviors could have varying results. Thus, educating school staff regarding adverse childhood experiences and trauma sensitivity can increase resilience in children. As school staff become self aware and acknowledge the trauma in their own adult lives their understanding of how neuroscience affects young brains, is extremely important.

This study will look at the effect of teachers with differing ACE scores to see if their childhood experiences correlate to personal beliefs related to dysregulated students.

Because there is limited space to present research, this framework will be expanded to show the correlation between individual teacher ACE scores and their beliefs related to resilience, sensitivity, and self regulation.

Conclusion

The current literature in the area of student behavior and academic progress shows positive results. Research is abundant in the area of academic achievement and instructional strategies to increase progress. There are few studies that integrate behavioral and social emotional curriculum into the school culture to show both academic and behavioral growth. As environmental factors play a continued role in student behavior, research shows that there are students who are successful even when dealt a hand of great adversity.

The need to address the importance of direct instruction for students' behavioral progress, academic achievement progress has been minimally studied. Preliminary findings in Greene's theory of doing well if you can, show progress can be made when working with both. Teacher implementation fidelity and the ability to transpose systems and methods throughout a district, school, classroom continues to be weakly supported in the literature. Therefore, it is important to stress the need for professional development regarding trauma responsive schools, how to work with students with adverse childhood experiences, and learning how to deal with a dysregulated student.

Chapter 3: Method

Introduction

The Self regulation/Resilience/Sensitivity scale developed for current study used in this study was adapted from three instruments: *Adverse Childhood Experience (ACE) Questionnaire: Finding your ACE Score 10/24/06* and *STAFF ACES SURVEY* (Sporleder and Forbes, 2016). Questions adapted from a third instrument, *Ashton Efficacy Vignettes,* was also used. A combination of questions and adapted questions from each of the assessments were used to create the Self regulation/Resilience/Sensitivity scale developed for current study. The purpose of the new assessment is to measure teacher ACE score and teacher beliefs in the areas of self regulation, teacher sensitivity, and resilience. The instrument is scored with a total summation of the questions and results are compared to determine if a relationship exists between an ACE score and personal beliefs in the areas of self regulation, sensitivity, and resilience when dealing with unwanted classroom behaviors.

Subjects

This study uses teachers in school districts from the state of Iowa. Teachers are from a sample of elementary, middle, and high school educators with grade levels of students in their classes ranging from kindergarten to twelfth grade. Teachers are employed within rural, suburban, and urban settings. The makeup of the subjects ranges from ages twenty two to the possibility of seventy years of age. Subjects were from any race, gender, and ethnicity. All subjects have an Iowa Teaching license from the Iowa Board of Educational Examiners. Subjects are certified by the Iowa Department of

Education in early childhood, elementary, or secondary education. This study had subjects with teaching experience ranging from one year to beyond forty years. This study examines the relationships of subgroups in the areas of years of experience, gender, and classroom setting (rural, urban, grade level). The subjects in this study all have participated voluntarily. The assumption of the ACE score will be random as subjects for this study were not recruited. The voluntary nature of the study is with full disclosure that this study will be measuring ACE and other potentially sensitive variables. The investigator conducting this study is an administrator in an Iowa Area Education Agency where there is access to forty five districts and over one thousand teachers are available to use as a subject field. The administrator was given permission from the district superintendent of each district to survey teachers. As those requests were granted teachers became eligible to voluntarily participate in the study.

Instrumentation

This study uses data compiled from a survey adapted from three existing surveys. The first section of the survey lists the ten adverse childhood experiences (ACE) categories and asks participants to determine an ACE score based on personal experiences from birth to age 18. This results in an ACE score ranging from 1-10. The second section of the survey is a set of vignettes and a Likert Scale with questions used to show a correlation between the ACE score and teacher personal belief in the areas of resilience, self regulation, and sensitivity to dysregulated student behavior within the classroom setting. The second set of 15 questions uses a 6 point Likert Scale which indicates the following: 1- strongly disagree with the belief of the teacher to a 6- strongly

agree with the belief of the teacher. The results of this survey could range from a score of 15 to 90 according to the investigator in this study. Scores in the lower half of the scale (15-45) would indicate, on average, an ineffective belief from a teacher. Scores in the upper half of the scale (46-90) would indicate, on average, an effective and more positive teacher belief.

The survey in this study includes adaptations from the following existing surveys:

1. Adverse Childhood Experience (ACE) Questionnaire: Finding your ACE Score 10/24/06 (Adapted from Trauma Informed Schools by Sporleder and Forbes) This study includes the Adverse Childhood Experience (ACE) Questionnaire: Finding your ACE Score 10/24/06 (Sporleder & Forbes, 2016). This is a checklist of ten categories of trauma in the CDC Kaiser Permanente Adverse Childhood Experiences (ACE) Study.

The CDC Kaiser Permanente ACE study is one of the largest investigations of childhood abuse and neglect and later life health and well being. The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors. The questionnaire asks participants to state if, during their childhood (before the age of 18), they were exposed to trauma in the areas of emotional and physical abuse, drug and alcohol abuse, sexual abuse, neglect, loss of an adult who lived with you by death, incarceration, divorce, or lived with an adult with mental illness. Participants receive a score of 0-10 depending on the number of traumatic childhood events they were exposed to before the age of 18.

Each event marked "yes" counts as one point on the scale. All ACE questions refer to the respondent's first 18 years of life and are included within the following categories: abuse, household challenges, and neglect. Within the category of abuse emotional, physical, and sexual abuse are defined as:

Emotional abuse: A parent, stepparent, or adult living in your home swore at you, insulted you, put you down, or acted in a way that made you afraid that you might be physically hurt.

Physical abuse: A parent, stepparent, or adult living in your home pushed, grabbed, slapped, threw something at you, or hit you so hard that you had marks or were injured.

Sexual abuse: An adult, relative, family friend, or stranger who was at least five years older than you ever touched or fondled your body in a sexual way, made you touch their body in a sexual way, attempted to have any type of sexual intercourse with you.

Experiences in childhood defined in the study as household challenges include and are defined as:

Mother treated violently: Your mother or stepmother was pushed, grabbed, slapped, had something thrown at her, kicked, bitten, hit with a fist, hit with something hard, repeatedly hit for over at least a few minutes, or ever threatened or hurt by a knife or gun by your father, stepfather, or mother's boyfriend.

Substance abuse in the household: A household member was a problem drinker or alcoholic or a household member used street drugs.

Mental illness in the household: A household member was depressed or mentally

ill or a household member attempted suicide.

Parental separation or divorce: Your parents were ever separated or divorced.

Incarcerated household member: A household member went to prison.

Experiences in childhood defined in the study as household challenges include and are

defined as:

Emotional neglect: The lack of someone in your family helped you feel important

or special, you felt loved, people in your family looked out for each other and felt

close to each other, and your family was a source of strength and support.

Physical neglect: The lack of someone to take care of you, protect you, and take

you to the doctor if you needed it, you didn't have enough to eat, your parents

were too drunk or too high to take care of you, and you had to wear dirty clothes.

The result of *Adverse Childhood Experience (ACE) Questionnaire: Finding your ACE*

Score is a number between 0-10. Each of these scores will be compared to the

participants' scores in questions related to personal beliefs in the areas of resilience, self

regulation, and sensitivity within the additional part of the survey.

2. <u>*Ashton Efficacy Vignettes*</u> *(Adapted from Ashton, P.T., Olejnik, S., Crocker, L. &*

McAuliffe, M. (1982). Measurement problems in the study of teachers' sense of efficacy.

Researchers generally credit Bandura (1977; also see Bandura, 1986, pp. 390-453) for

providing the theoretical framework for studying teacher efficacy. In his theory of self

efficacy, Bandura argued that human behavior is influenced by the individual's beliefs

regarding two classes of expectations: an outcome expectation, a person's estimate that a

given behavior will lead to certain outcomes, and an efficacy expectation, the "conviction that one can successfully execute the behavior required to produce the outcome" (Bandura, 1977, p. 193). Within the context of teaching, for example, an outcome expectation is illustrated by the teacher who believes that skillful instruction can offset the effects of an impoverished home environment. Here, efficacy is expressed not for oneself but, rather, for an abstract collective of teachers, the normative teacher, using the language of Denham and Michael (1981, p. 41). An efficacy expectation, in contrast, would be reflected by the teacher's confidence that he or she personally is capable of such instruction, that the individual possesses personal agency with respect to the task of pedagogy. Teacher efficacy researchers traditionally have labeled the two sets of beliefs teaching efficacy and personal teaching efficacy (Ashton & Webb, 1986; Gibson & Dembo, 1984). This language invites confusion, however, given the superordinate construct of teacher efficacy. Although for somewhat different reasons, Hoy and Woolfolk (1990a) opted to label these constructs general teaching efficacy and personal teaching efficacy, a distinction that was simplified in this study to general efficacy and personal efficacy. However labeled, this distinction is critical "because individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior" (Bandura, 1977, p. 193). Thus, one may be confident in the abilities of the normative teacher and, at the same time, harbor considerable uncertainties about his or her own instructional prowess.

Teacher self efficacy refers to a teacher's belief that he or she can perform the necessary activities to influence student learning (Donohoo, 2017). Protherone (2008) noted that the term teacher efficacy references "a teacher's sense of competence- not some object measure of actual competence" (p. 43).

Questions adapted from the *Ashton Efficacy Vignettes* were formed with the intent of measuring teacher self regulation, resilience, and sensitivity. A six point Likert Scale was created to establish a score that can be with all questions to create a total composite score.

3. *STAFF ACES SURVEY (Adapted from Trauma Informed Schools by Sporeleder and Forbes)* The Staff ACES Survey has teachers rate their belief system as it relates to personal self regulation, resilience, and sensitivity. It was created as part of a professional development plan written by Sporeleder and Forbes (2016) entitled *The Trauma Informed Schools: A step by step Implementation Guide for Administrators and School Personnel.* The premise behind the original survey is to get a baseline of understanding teacher beliefs related to resilience, self regulation, and sensitivity to student behaviors in the classroom. The survey, in its pure form, is used as a pre/post assessment for the professional learning series.

The Self regulation/Resilience/Sensitivity scale developed for current study, was created with a small group of professionals who work in an educational setting. The focus group included two school psychologists, a school administrator, a master's level educational behavior consultant, a positive behavioral instructional support (PBIS) expert and facilitator, and a former special education teacher and current professional

development coordinator. The purpose of the focus group was to adapt the Ashton

Efficacy Vignettes (Adapted from Ashton, P.T., et al., 1982) *Measurement problems in*

the study of teachers' sense of efficacy and STAFF ACES SURVEY (Adapted from

Trauma Informed Schools by Sporeleder and Forbes, 2016) to create survey questions

aligning to definitions of resilience, self regulation, and sensitivity, and, to determine how

many questions and which questions on each survey were relevant to this study. The

initial meeting determined a collective understanding of the definitions listed in the

introduction of this study for resilience, self regulation, and sensitivity.

The focus group met on three occasions. The focus group created a common

definition for sensitivity, self regulation, and resilience. These three concepts were not

indicated in any of the adapted surveys or questionnaires. The group defined the three

concepts based on discussions related to the survey/questionnaire. Upon discussion of

adaptations to questions the following definitions were agreed upon. These definitions

were vetted through reliable sources linked to the surveys and aligned to the Self

regulation/Resilience/Sensitivity scale developed for the study.

Teacher Sensitivity: Teacher sensitivity refers to the extent to which teachers display

awareness of academic and emotional student needs and respond to those needs (Buhs, et

al., 2015). Individual answers demonstrate personal beliefs on a Likert Scale (1- I

absolutely do not believe to 6-I absolutely do believe) with a possible score between

5-30. This design measures teacher sensitivity when responding to student emotional and

academic needs on the Self regulation/Resilience/Sensitivity scale developed for current

study.

Resilience: Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress such as family and relationship problems, serious health problems or workplace and financial stressors. Five factors have been found to be most relevant to the development of adaptive or resilient functioning: 1) constructive attachments to other people that involve emotional support and encouragement, 2) the development of intellectual skills, increased knowledge, and increased problem solving abilities, 3) the ability to regulate emotions and cognitions, 4) the motivation to master new skills, take action to aid goal achievement, and recognize the rewards available for hard work, and 5) the ability to see beyond current difficulties and have hope or faith in change, as well as to find meaning in life (Masten 2014; Khrapatina, I., & Berman, P. , 2017).

Resilience is the ability for an individual to "bounce back" when facing adversity, distress, or trauma and shows a higher knowledge of resilience which will lead to empathy and increased self regulation when reacting to inappropriate student behavior as represented by the score on the Self regulation/Resilience/Sensitivity scale developed for current study. Individual answers will demonstrate personal beliefs on a Likert Scale (1- I absolutely do not believe to 6-I absolutely do believe) with a total score between 5-30 on the questions designed to measure teacher belief of resilience on the Self regulation/Resilience/Sensitivity scale developed for current study.

Self regulation: Self regulation is the one 's capacity for altering behaviors. It greatly increases the flexibility and adaptability of human behavior, enabling people to adjust their actions to a remarkably broad range of social and situational demands. It is an

important basis for the popular conception of free will and for socially desirable behavior. It provides benefits to the individual and to society, and indeed good self control seems to contribute to a great many desirable outcomes, including task performance, school and work success, popularity, mental health and adjustment, and good interpersonal relationships (Baumeister, Heatherton, & Tice, 1994; Duckworth & Seligman, 2005; Mischel, Shoda, & Peake, 1988; Shoda, Mischel, & Peake, 1990; Tangney, Baumeister, & Boone, 2004;Wolfe & Johnson, 1995). Self regulation is the ability for an individual to connect with students, show flexibility and adaptability of human behavior and enables student and teacher to adjust their actions to a remarkably broad range of social and situational demands. Individual answers will demonstrate personal beliefs on a Likert Scale (1- I absolutely do not believe to 6-I absolutely do believe) with a total score between 5-30 on the questions designed to measure teacher belief of self regulation in the classroom.

As common definitions were agreed upon within the focus group the group then took time to choose keywords within the definition to use when categorizing each survey question as it related to resilience, self regulation, and sensitivity. The group agreed upon the keywords within each definition of resilience, self regulation, and sensitivity as they discussed each question vetted. The process began and continued throughout the second and third meeting of the team. Each member looked at each survey question and determined, individually, which category (resilience, self regulation, and sensitivity) they felt aligned with the definitions stated at the beginning of the study. Within their

determination they also wrote down the keywords to justify placing the question within each category.

Keywords and phrases for self regulation include self capacity, flexibility, adaptability, enabling, adjusting, and socially desirable behavior. Keywords and phrases for resilience include adapting well, bouncing back, and behaviors and thoughts that are learned and developed. Keywords and phrases developed from the definition of sensitivity include display awareness, academic, emotional, and response to needs.

Each focus group member completed the task of determining each question category (resilience, self regulation, or sensitivity) individually. Once completed individually the focus group collaborated to discuss each question one by one with the category they chose based on the defined keywords and phrases. Within this process, if dissent was present, a discussion occurred, keywords and the definitions reviewed, and then the team determined a collective outcome that all could agree upon. Discussion occurred in the areas of justifying what bouncing back meant, and how the definition of resilience, self regulation, or sensitivity was defined within the question. This process was repeated for each of the 15 questions. A group consensus for each question was determined before the survey was complete.

The Self regulation/Resilience/Sensitivity scale developed for current study will be scored by adding up the total Adverse Childhood Experiences (1-10) and each response to the remaining 15 questions, creating a sum. The Adverse Childhood Experience (ACE) score will then be correlated to the total sum from the Likert Scale scores to understand the strength of the relationship between a teacher ACE score and

sensitivity, a teacher ACE score and resilience, a teacher ACE score and self regulation. In addition, correlation will be determined between the strength of the relationship between resilience and sensitivity, resilience and self regulation, and sensitivity and self regulation. Finally, a composite score of all 15 questions will be correlated to the teacher ACE score. Additional measures will be analyzed based on subgroups as they relate to years of teaching experience, gender, and educational assignment (e.g. rural, urban, suburban, elementary, or secondary settings).

Upon permission, from a minimum of five school districts, at least 100 surveys will be sent to teachers. The survey will consist of questions adapted from three sets of questions. Completed data from the survey will result in a composite score and will then be ranked by individual teacher. The scores will be correlated to understand the effect of teacher ACE score and their beliefs in the areas of resilience, self regulation, and sensitivity to dysregulated student behaviors.

Procedures

The survey was sent to approximately 875 teachers in twelve school districts who completed it between the months of March and April 2020. A total of 225 surveys were completed for a response rate of approximately 25.7% . The survey consisted of two sections; the first section calculated the total ACE score and the second section determined a composite score from beliefs related to resilience, sensitivity, and self regulation.

Data Collection and Analysis

This study will attempt to show how a personal teacher ACE score correlates to their beliefs when working with students experiencing dysregulated behaviors. This study will be a single method study and collect quantitative data. It will use a Spearman Rank-Order test to create a correlation coefficient from the non parametric survey data, which will allow the researcher to understand the strength of the relationships between scores. The Spearman Rank-Order test will be calculated to interpret the correlation of strength to the relationship of teacher ACE scores and teacher beliefs in the areas of resilience, self regulation, and sensitivity.

The results of the Self regulation/Resilience/Sensitivity scale range from a score of 15 to 90. Teacher sensitivity refers to the extent to which teachers display awareness of academic and emotional student needs and respond to those needs. Resilience is the ability for an individual to bounce back when facing adversity, distress, or trauma and shows a higher knowledge of resilience which will lead to empathy and increased self regulation when reacting to inappropriate student behavior as represented by the score on the Self regulation/Resilience/Sensitivity scale developed for current study. Self regulation is the ability for an individual to connect with students, show flexibility and adaptability of human behavior and enables student and teacher to adjust their actions to a remarkably broad range of social and situational demands. Correlations between the overall ACE score of the teacher and each of the categories above will be collected and analyzed. Data from the self reported survey will indicate a positive or negative relationship within the strength of the teacher's personal beliefs in the areas of self

regulation, resilience, and/or sensitivity to unwanted classroom behaviors as it aligns to their ACE score. Summary statistics for individual surveys will provide a way for composite scores to be calculated and ranked for the test. This study will not make claims beyond the research questions asked in this study.

Chapter 4: Results

Introduction

Trauma sensitive practices in school settings can significantly increase academic

success (Sporleader & Forbes, 2016). Neuroscientific studies show children and

adolescent brains are malleable and can recover from traumatic events if given the correct

environment (Thompson, 2015). The field of education can be very stressful and possibly

trigger behaviors related to personal childhood. The results from this study show how an

individual teacher ACE score correlates to their personal beliefs in the areas of self

regulation, resilience, and sensitivity. Results were accumulated based on self reporting

of beliefs of student behaviors in the classroom.

As teachers begin to understand a trauma informed approach to teaching they

must also recognize their own ACE score and determine how they will react to student

behaviors, related to adverse childhood experiences, within their own classrooms. The

findings of this study showed statistically significant results when answering the research

questions posed. When determining if teachers' ACE score correlate to their personal

beliefs of student resilience, sensitivity, and self regulation in the classroom a Spearman

Rank Correlation showed a significant relationship between teacher ACE score and all

three categories related to their personal belief aligned to student behavior, self

regulation, resilience, and sensitivity.

Summary of Data Collected

The instrument developed for the current study, the Self

regulation/Resilience/Sensitivity scale developed for current study, was adapted from

three existing assessments: *Adverse Childhood Experience (ACE) Questionnaire:*

Finding your ACE Score 10/24/06 , Ashton Efficacy Vignettes, and *STAFF ACES*

SURVEY (Sporleder and Forbes, 2016). Data was collected from twelve districts located

in southwest Iowa. The size of districts ranged from 417 students to 2624 students in

grades PK-12. The Self regulation/Resilience/Sensitivity scale was shared with all

teachers within each district in May 2020. The survey was completed on an individual

basis as was entirely voluntary and the survey was closed in June 2020. The total number

of participants was 225 and Tables 2-5 show the distribution of demographics, years of

experience, and type of experience within the total participants.

Table 2

Teacher Years of Experience
Self regulation/Resilience/Sensitivity scale

Years of Experience	Number of teachers	Percentage of total participants (N=225)
1- 5	43	19.1%
6-10	42	18.7%
11-15	25	11.1%
16-20	37	16.4%
21-25	28	12.4%
26-30	29	12.9%
31-35	16	7.1%
More than 35	5	2.2%

Table 3

Teacher Adverse Childhood Experience (ACE) Self Reported Score

ACE score	Number of teachers	Percentage of total participants (N=225)
9	2	.9%
8	1	.45%
7	3	1.3%
6	2	.9%
5	9	4%
4	11	4.9%
3	19	8.4%
2	26	11.6%
1	50	22.2%
0	102	45.3%

Table 4

Participant Gender

Gender	Number of teachers	Percentage of total participants (N=225)
Female	179	79.6%
Male	44	19.6%
Prefer not to say	2	.9%

Table 5

Current Teaching Assignment Grade Range

Grade Range	Number of teachers	Percentage of total participants (N=225)
Early Childhood	19	8.4%
Primarily Elementary	79	35.1%
Primarily Middle School	41	18.2%
Primarily High School	69	30.7%
K-12	17	7.6%

Table 6

Adverse Childhood Experience (ACE) Results

| Question	Number of Responses	YES	Percent of Total	NO	Percent of Total
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?	225	175	22.2%	50	77.8%
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?	225	193	14.2%	32	85.8%
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?	225	189	16%	36	84%
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?	225	195	13.3%	30	86.7%
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?	225	7	3.1%	218	96.9%
Were your parents ever separated or divorced?	225	177	21.3%	48	78.7%
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 a knife?	225	209	7.1%	16	92.9%
Did you live with anyone who was a problem drinker or alcoholic or used street drugs?	225	190	15.6%	35	84.4%
Was a household member depressed or mentally ill or did a household member attempt suicide?	225	176	21.8%	49	78.2%
Did a household member go to prison?	225	220	2.2%	5	97.8%

I believe it is my behavior that can make the difference with my students when teaching appropriate behavior in the classroom.
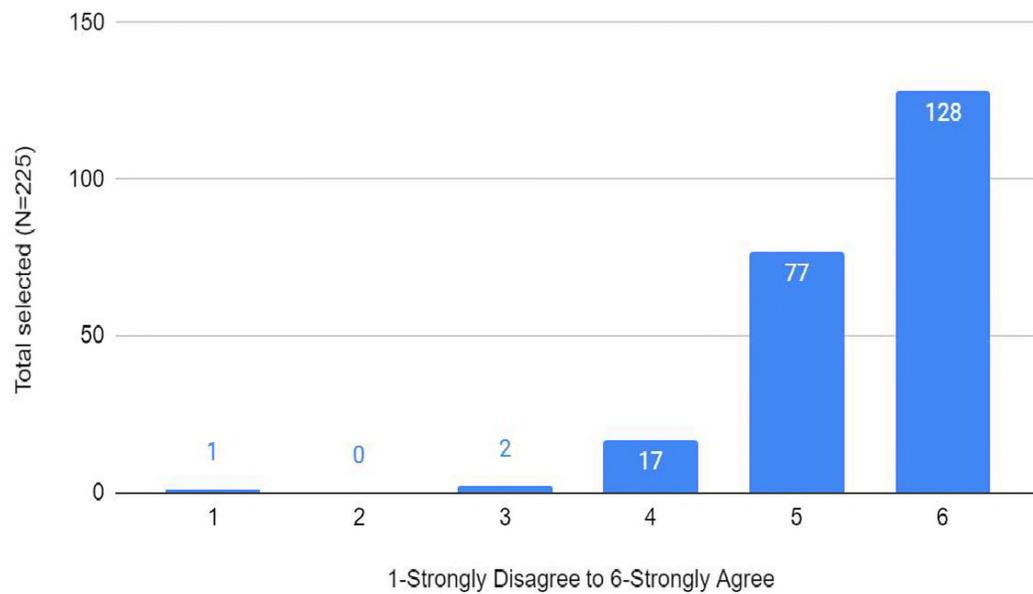
Self regulation/Resilience/Sensitivity scale Question

Figure 1

I believe the more we can connect with our students the greater chance we have to adapt to our student's needs.
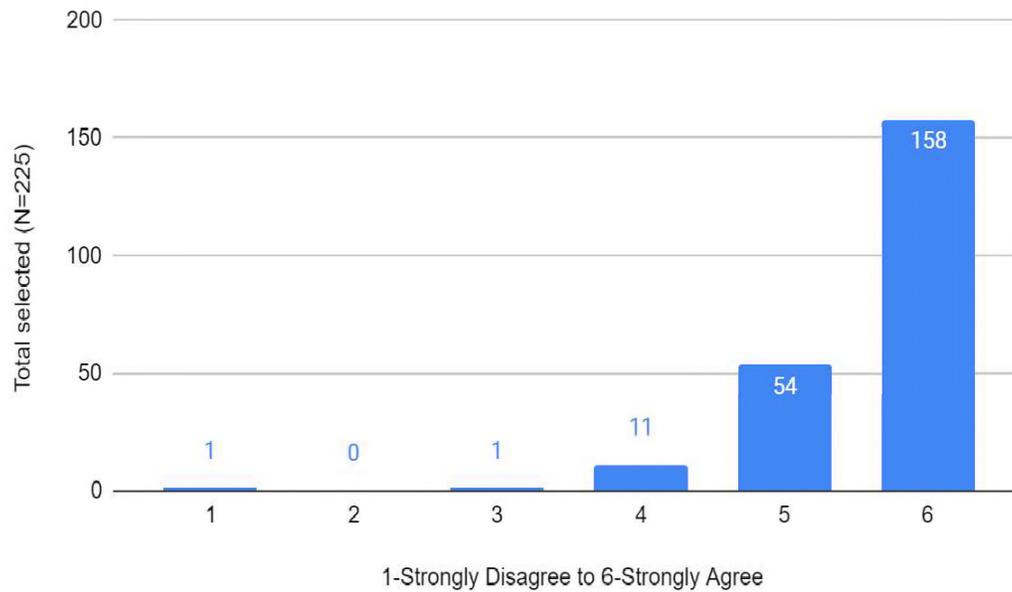
**Self regulation/Resilience/Sensitivity scale Question 2**

Figure 2

I believe my knowledge of Adverse Childhood Experiences will help me adjust my actions when I observe student behaviors interfering with classroom instruction.
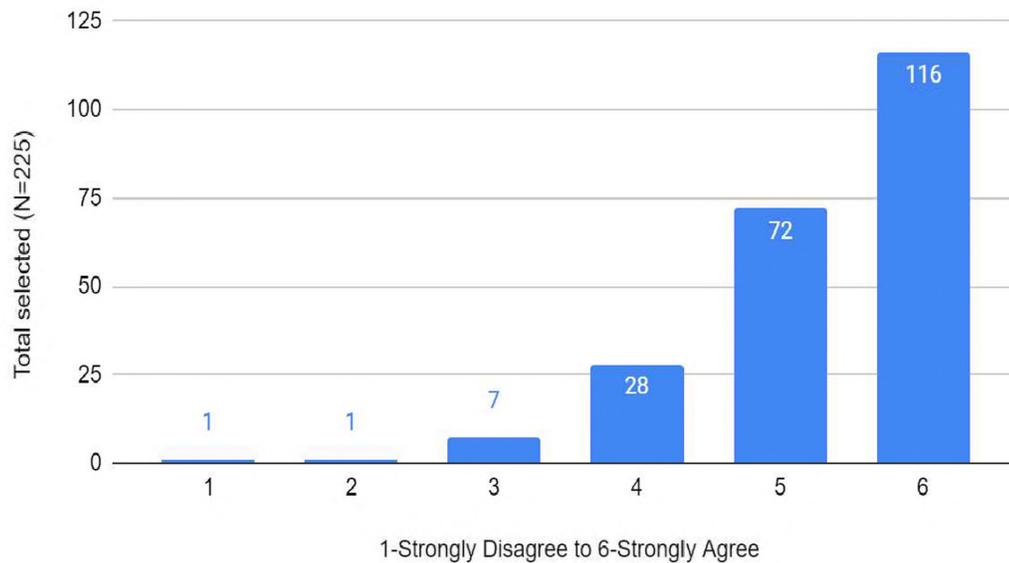
Self regulation/Resilience/Sensitivity scale Question 3

Figure 3

I believe Adverse Childhood Experiences impact student learning and behavior in the classroom.
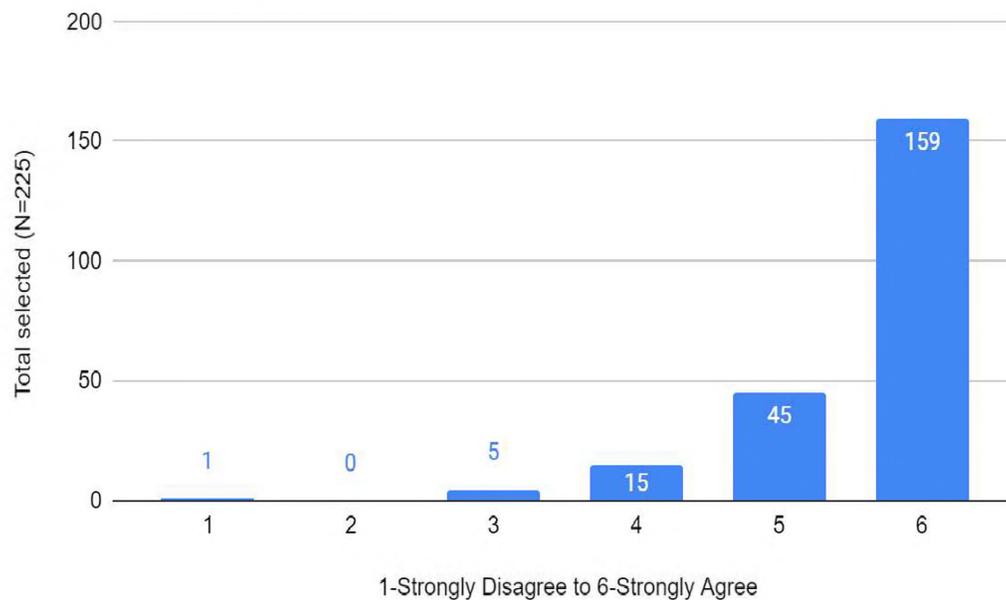
**Self regulation/Resilience/Sensitivity scale Question 4**

Figure 4

I believe my experiences have impacted my response with students impacted by Adverse Childhood Experiences and toxic stress.
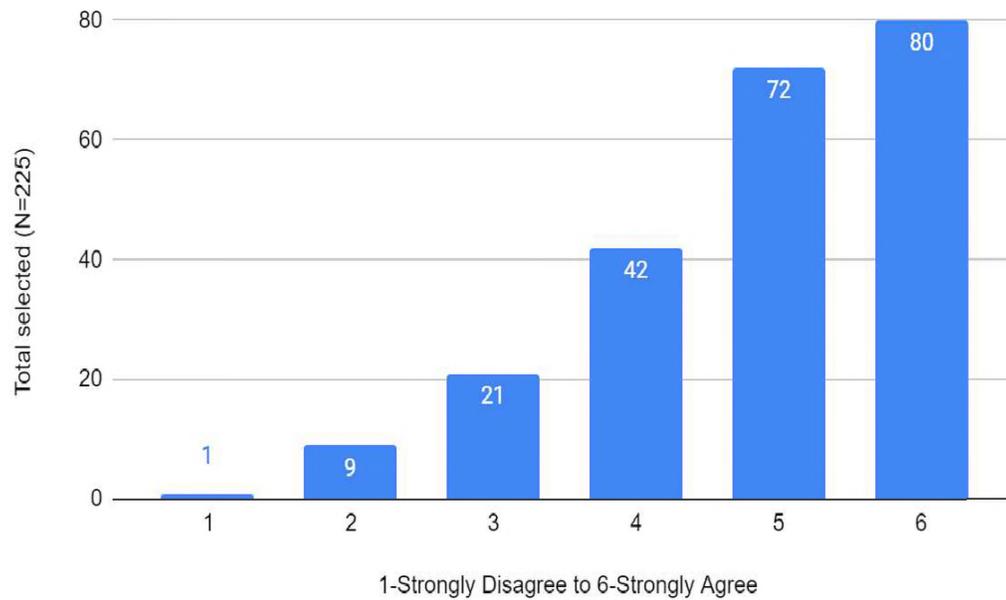
Self regulation/Resilience/Sensitivity scale Question 5

Figure 5

I believe I have a solid understanding of Adverse Childhood Experiences.
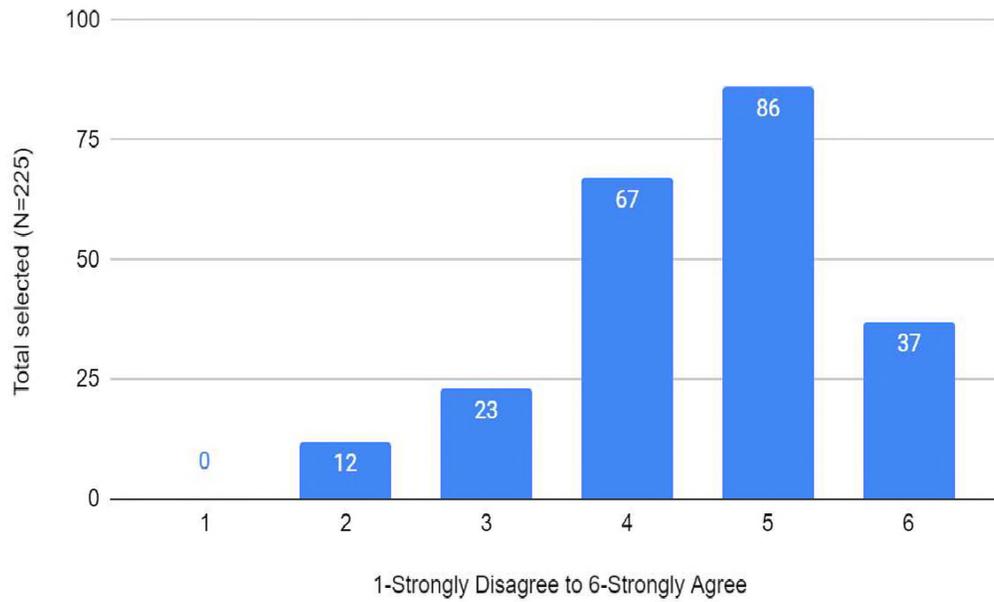
Self regulation/Resilience/Sensitivity scale Question 6

Figure 6

I believe my own Adverse Childhood Experiences score affects how I react to my students' behavior.
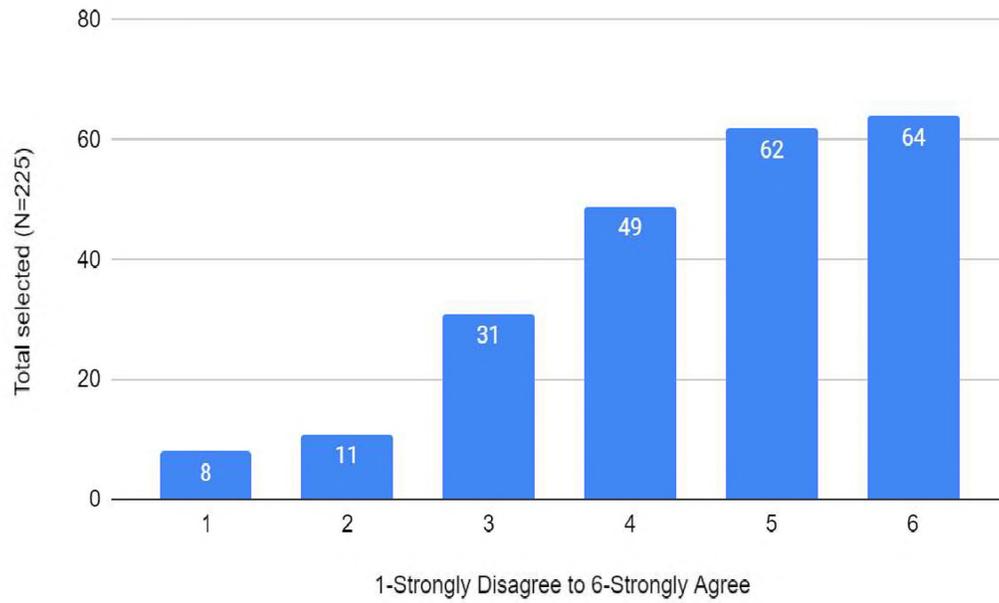
Self regulation/Resilience/Sensitivity scale Question 7

Figure 7

I believe Adverse Childhood Experiences can have a significant negative impact on the life and success of our students if we don't teach strategies to build resilience.
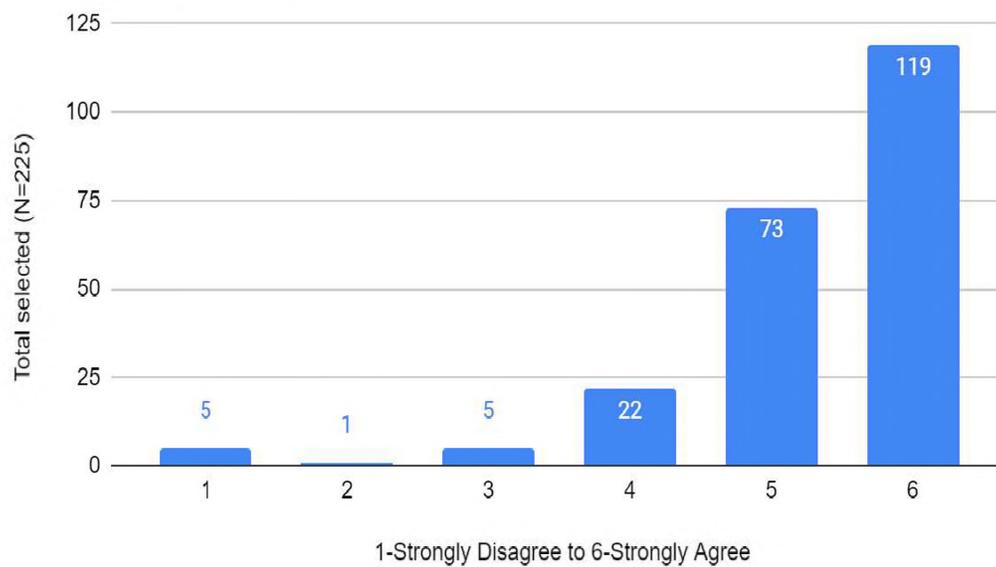
Self regulation/Resilience/Sensitivity scale Question 8

Figure 8

I believe my own resilience has impacted my life in a positive way.
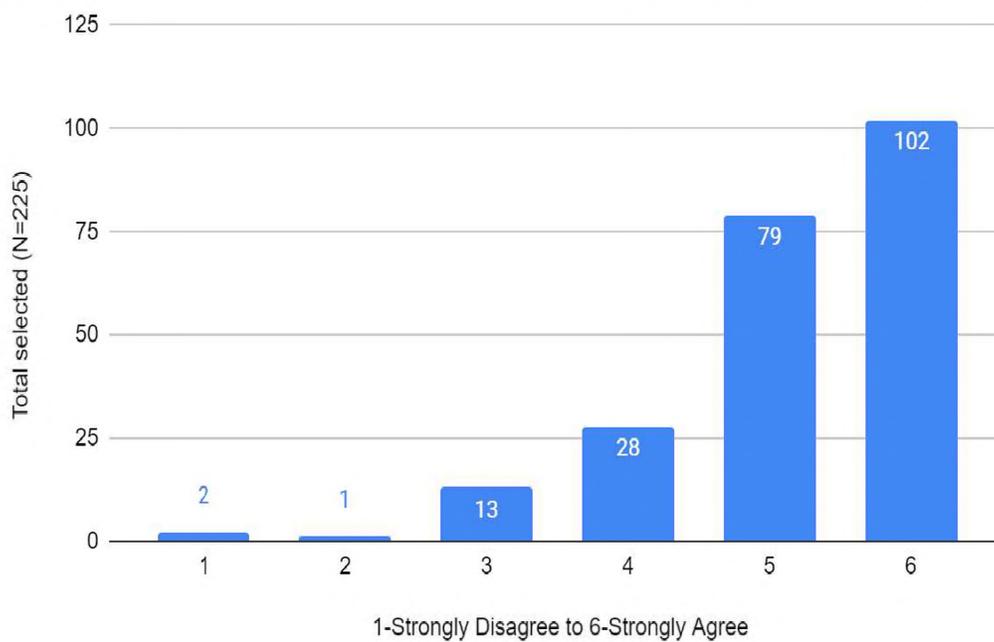
Self regulation/Resilience/Sensitivity scale Question 9

Figure 9

In your class, you have a student who never hands in assignments on time, seldom gets to class before the bell rings and inevitably forgets to bring books or a pencil to class. He has the ability to do above average work but you have discussed this matter with his parents and they don't seem to understand the importance of school achievement. How effective would you be in motivating this student to get to work?
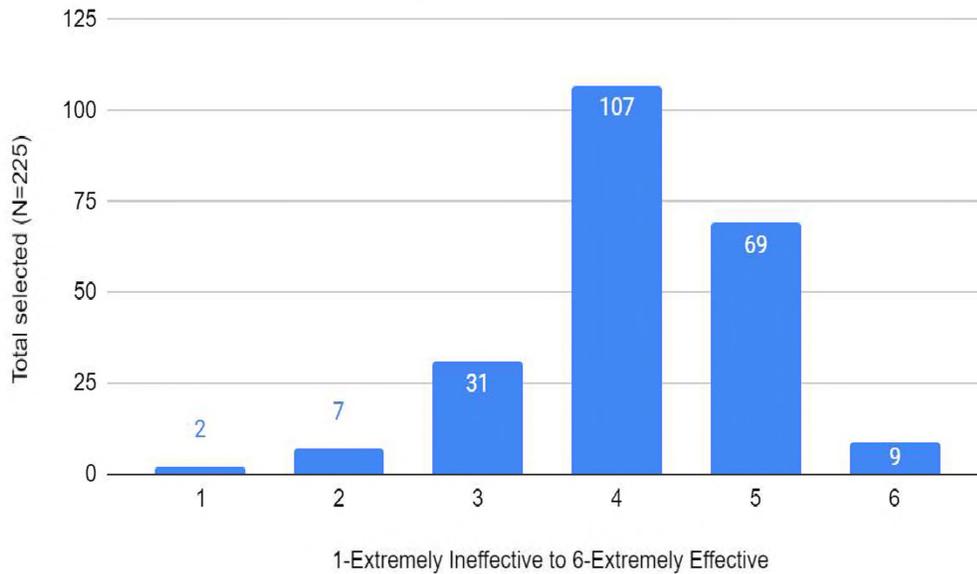
Self regulation/Resilience/Sensitivity scale Question 10

Figure 10

Due to repeated failure, one of your students confides in you that she has given up and will attend school only until she can find a way to drop out. How effective would you be in persuading her that she can be successful in school?

1-Extremely Ineffective to 6-Extremely Effective
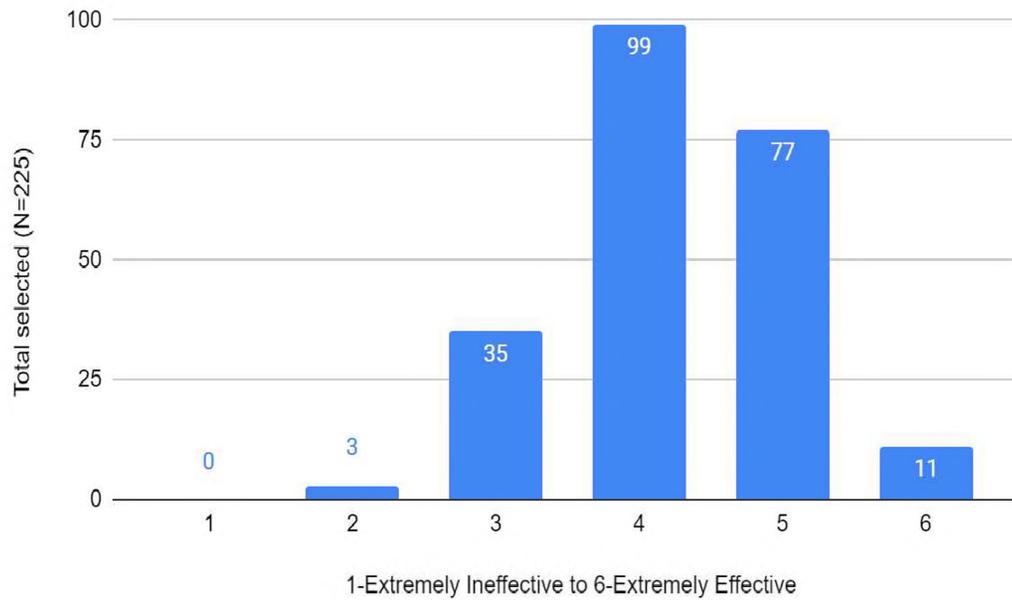
Self regulation/Resilience/Sensitivity scale Question 11

Figure 11

A student in your class misbehaves frequently and is often disruptive and hostile. Today in class he began roughhousing with a friend in the back of the class. You tell him firmly to take his seat and quiet down. He turns away from you, says something in a belligerent tone that you can't hear and swaggers to his seat. The class laughs and then looks to see what you are going to do. How effective would you be in responding to this student in a way that would win the respect of the class?

1-Extremely Ineffective to 6-Extremely Effective
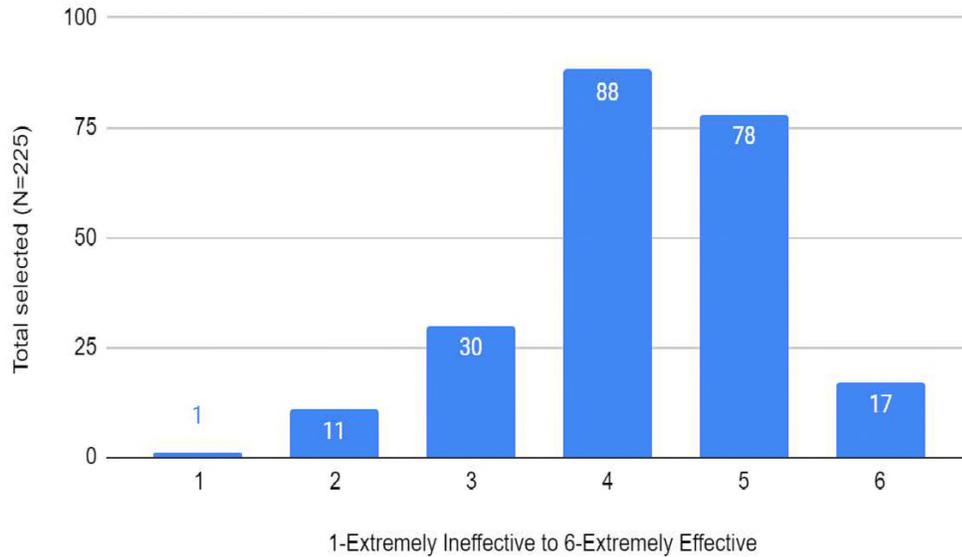
Self regulation/Resilience/Sensitivity scale Question 12

Figure 12

One of your students repeats your instructions and mimics your words and facial expressions on a daily basis. You have discussed the disruption with the student's parents and the student but the behavior continues. How effective would you be in eliminating the behaviors?
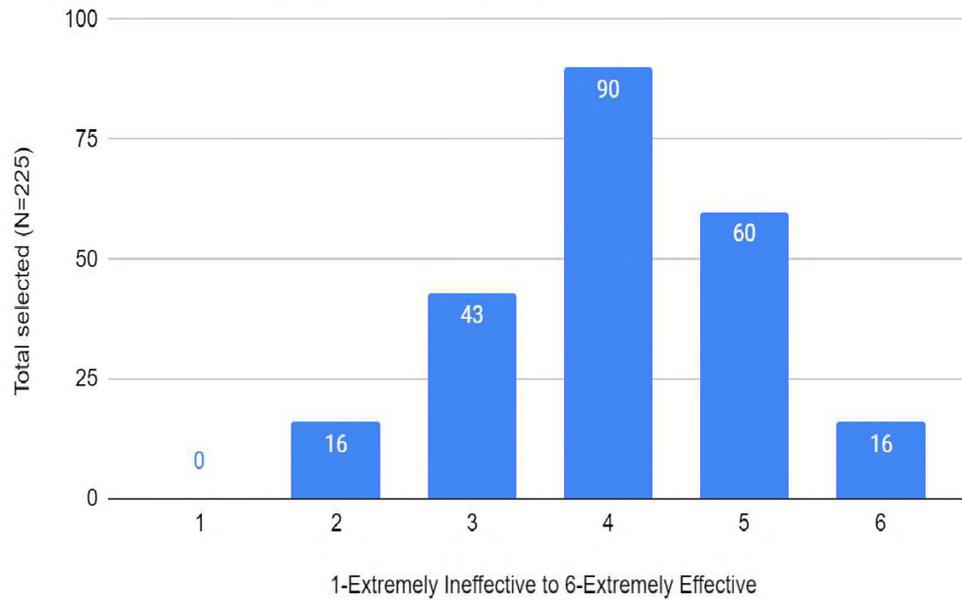
**Self regulation/Resilience/Sensitivity scale Question 13**

Figure 13

Half a dozen low achieving female students are not getting much from your class. Lately they have begun to "hang around together" and to advertise that they don't like you or your class. They have begun to fool around, disrupt your lessons, and occasionally "talk back". When you attempt to involve them in class work they either make jokes or sit sullenly. How effective would you be in reducing the impact of their disruptive behavior?
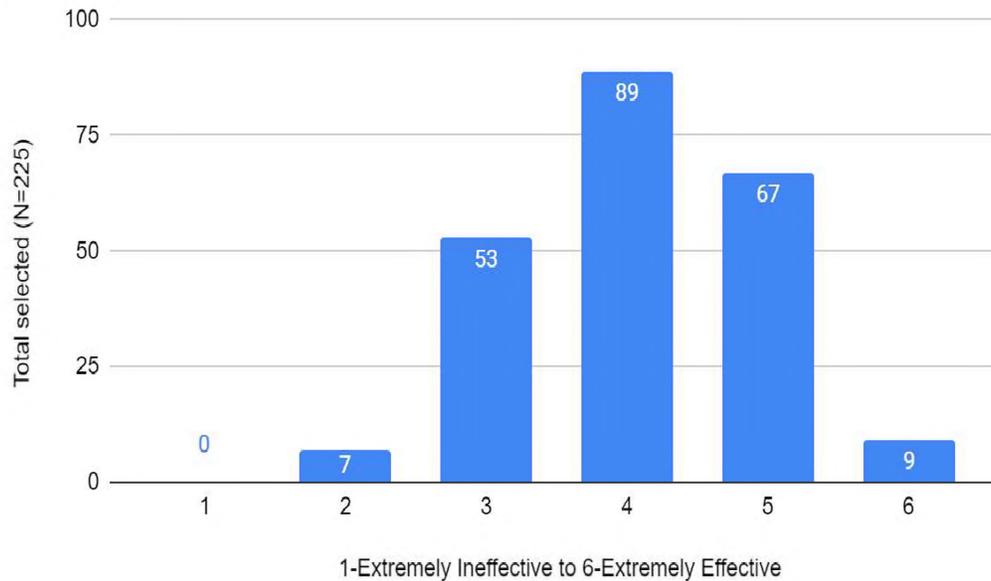
Self regulation/Resilience/Sensitivity scale Question 14

Figure 14

A student with a learning disability has been mainstreamed into your classroom. His previous teacher described him as being extremely hyperactive and having severe reading problems. This reminds you of a former student you did not have success with. How effective will you be in teaching this student?

1-Extremely Ineffective to 6-Extremely Effective
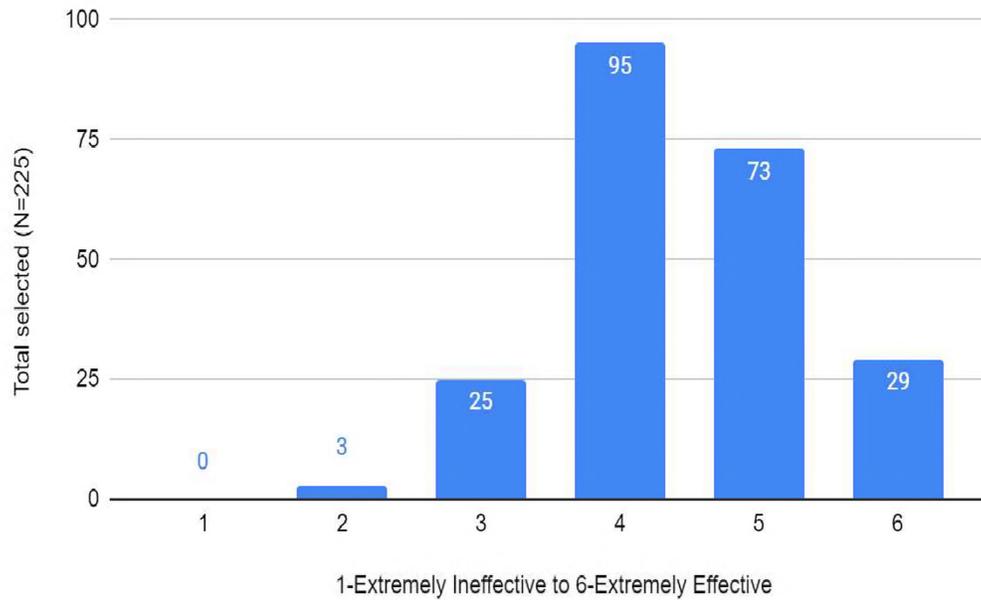
Self regulation/Resilience/Sensitivity scale Question 15

Figure 15

Table 7

Spearman Rank Coefficient Results by Category

Category	Spearman Rank Coefficient
Self regulation	.75455*
Sensitivity	.93*
Resilience	.952*

*A t-test for correlation results in the lowest of the three values is t=3.2. The cutoff for significance with 9 degrees of freedom at .05 is any t-value greater than 1.833. (n=225, p<- .05, t=3.2)

Table 8

Category average of scores based on ACE groupings

Category	Average score on Self regulation/Resilience/ Sensitivity scale developed for current study based on ACE score of 4 or more (max = 30)	Average score in category based on ACE score of 3 or below (max = 30)
Self regulation	29.27	25.71
Sensitivity	29.58	23.86
Resilience	29.5	24.14

Analysis of Data

In the area of self regulation the Spearman Rank Coefficient score of .75 shows a significant finding when answering the question, how do teacher ACE scores correlate to a teacher's personal belief about self regulation. This shows a strong correlation between a higher teacher ACE score and more self regulation in the classroom when dealing with students who display unwanted behaviors. This could indicate the increased belief of teachers with higher ACE scores that they are in control of their emotions and understand children who may have experienced trauma just as they have.

In the area of resilience, the Spearman Rank Coefficient score of .952 shows the strongest correlation between the variables and teacher ACE score. It is a significant finding when answering the question, "How do teacher ACE scores correlate to a teacher's personal belief about resilience?" This shows a strong correlation between a higher teacher ACE score and using resilience within the classroom when dealing with students who are experiencing trauma at home and need a strong adult in the classroom.

In the area of sensitivity, the Spearman Rank Coefficient score of .932 shows a strong correlation between the variables and teacher ACE score. It is a significant finding when answering the question, "How do teacher ACE scores correlate to a teacher's personal belief about sensitivity to individual student academic and emotional needs?" This shows a strong correlation between a higher teacher ACE score and using sensitivity within the classroom as teachers with a higher ACE score show more awareness of student emotional needs within the classroom setting.

In conclusion, the study presented showed a significant relationship between teacher ACE scores and the three categories of self regulation, resilience, and sensitivity. Each of the research questions posed showed a positive correlation between the number of ACEs and teacher personal beliefs in each category. A relationship between the higher the number of ACEs a teacher reported to their personal report of beliefs regarding student behavior and their confidence in their ability to overcome unwanted classroom behaviors was shown in this study.

Chapter 5: Conclusion and Discussion

Assumptions Limitations Delimitations

As this survey was self-reported, the results are only as good as the honesty of the participants. In addition, the researcher is not familiar with the professional learning and other experiences' teachers have had in their classroom or life experiences as they relate to respondents' beliefs in the areas of student learning, behavior, and resilience.

A second limitation is the culture and climate of the school district with which the teacher is employed. The researcher did not collect data to determine or rate the climate of one district against another. Climate and culture could include administrative leadership tendencies, teacher efficacy, parent involvement, and student age population.

A third limitation is the student demographics among the districts the teachers report within this research study. The teachers did not report on the socio-economic status of the school they are employed.

Implications of the Research

As Maslow's hierarchy of needs indicates, all individuals must have their basic needs met before they are able to move up the hierarchy of learning to understand relationships, self-love, and learn. The basic needs of physiological and safety, if deficient, can result in anxious and tense feelings throughout childhood and adulthood. Therefore, the need to be calm and in balance instead of stressed and overwhelmed, is a top need for students and teachers.

As human beings, our belief systems are the core of who we are. Beliefs drive us, persuade how we act, and help us understand where to provide attention. A belief is

powerful because it is simply any perception, cognition, emotion, or memory that we consciously or unconsciously assumed to be true. In short, our belief is our reality. Beliefs can be empowering and life changing, but unfortunately they can also be equally as disempowering. If our beliefs are negative, pessimistic, and limiting the result will be a negative, pessimistic, and limiting existence (Forbes, p. 53). A teacher's belief in the classroom can positively or negatively affect the students they serve.

A strong key to teacher effectiveness in the classroom is her ability to create relationships with her students. Traditionally, teachers have been expected to run a classroom where academics are the focus, with little time or energy to spend on students' emotional and social needs. Students are to sit in a standardized classroom, be standardized pegs that fit into standardized slots, and follow instructions and rules without questioning authority. This cookie-cutter approach dehumanizes the classroom environment and ignores the incredible power of the teacher-student relationship. True power and control do not come through authority but through relational influence. Children inherently want to please those with whom they have a strong relationship. Ignoring this natural motivator has been a shameful loss in maintaining and improving the academic environment (Forbes, p. 126-27).

A strong implication from this study is the result of a significant correlation between teacher beliefs when dealing with their own self regulation in the classroom. Self regulation is the one's capacity for altering its behaviors. It greatly increases the flexibility and adaptability of human behavior, enabling people to adjust their actions to a remarkably broad range of social and situational demands. It is an important basis for the

popular conception of free will and for socially desirable behavior. Self regulation

provides benefits to the individual and to society, and indeed good self-control seems to

contribute to a great many desirable outcomes, including task performance, school and

work success, popularity, mental health and adjustment, and good interpersonal

relationships (Baumeister, Heatherton, & Tice, 1994; Duckworth & Seligman, 2005;

Mischel, Shoda, & Peake, 1988; Shoda, Mischel, & Peake, 1990; Tangney, Baumeister, &

Boone, 2004;Wolfe & Johnson, 1995)

As the results indicate, teachers with a higher ACE score show stronger beliefs in

the areas of helping students become self-regulated, resilient, and sensitive to their own

personal feelings. Such results could imply that a relationship between the teacher and

student could evolve quicker due to the trust given from the teacher to the student. As

students witness modeling and strategies from teachers who have experienced trauma

themselves they could be more likely to understand their own personal emotions and

become hopeful that they can learn protective factors to assist them in their journey

toward resilience through self regulation strategies.

Teacher sensitivity refers to the extent to which teachers display awareness of

academic and emotional student needs and respond to those needs. Traditionally,

academic needs have far outweighed emotional needs in the classroom. An implication

from this study could be further research in the areas of belief systems in teachers

comparing emotional and academic awareness. Could a higher sensitivity score in the

area of emotional need versus academic need in the classroom produce increased student

results? If a teacher is overly sensitive to emotional needs and does not pay attention to academic needs is there a negative affect?

As we continue to research adverse childhood experiences (ACE) scores it is often forgotten that adults were at some point children too. Teachers were children and could very well have experienced a great deal of trauma as a child. What helped them to overcome this and become resilient enough to complete four years or more of schooling to become a professional teacher? Where did they learn to overcome the challenges of their childhood to understand self regulation and sensitivity to emotional issues they may not have understood or been able to model from adults when they were young children. This study shows how teachers who experienced a high amount of trauma show more resilience, self regulation, and sensitivity when working with children in their classrooms. Further study could dig deeper into why this occurs.

Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress — such as family and relationship problems, serious health problems or workplace and financial stressors. Five factors have been found to be most relevant to the development of adaptive or resilient functioning: 1) constructive attachments to other people that involve emotional support and encouragement, 2) the development of intellectual skills, increased knowledge, and increased problem solving abilities, 3) the ability to regulate emotions and cognitions, 4) the motivation to master new skills, take action to aid goal achievement, and recognize the rewards available for hard work, and 5) the ability to see beyond current difficulties

and have hope or faith in change, as well as to find meaning in life (Masten 2014; Khrapatina, I., & Berman, P. , 2017).

Resilience is the ability for an individual to bounce back when facing adversity, distress, or trauma and shows a higher knowledge of resilience which will lead to empathy and increased self regulation when reacting to inappropriate student behavior. In implication from this study could be understanding and looking at self awareness of the five factors related to resilience. If a school or district used these five factors to teach social emotional skills to children and adults, results from the study would predict an outcome of stronger resilience modeling for all students, especially those with a higher ACE score.

Tapping into the teachers with a higher ACE score and looking at their level of confidence in handling classroom behaviors, as well as their inherent belief system, could be a new spark to help teacher classroom management. The fact that a student only needs to make one strong connection with one caring adult to provide hope and perseverance shows the importance of the belief system of teachers who have dealt with trauma in their childhood. When a teacher is able to view a child as "normal" despite his life experiences and she can embrace her own opportunity for growth and healing, students displaying unwanted behaviors begin each day with a new set of hope that he is worthy and accepted.

Due to the strong correlation between teacher ACE scores and beliefs in the areas of student behavior and personal self regulation, resilience, and sensitivity this research shows strong promise in the area of professional development. In addition to

professional development in the aforementioned areas, there is a case for additional professional learning regarding teacher self awareness. Although the data was self-reported, it is an assumption that teachers answered as they truly believed they would react based on their experience in the classroom. If this research were presented in a way that teachers could see the correlation between their personal ACE score and overall reactions to unwanted classroom behavior it could raise an awareness personally and help other teachers within their building.

As mentioned in Chapter 2, Collaboration for Academic, Social, and Emotional Learning (CASEL) performed a meta analysis of more than 300 studies of social and emotional learning programs involving nearly 325,000 K-8 students. Children with access to social and emotional learning programs had gains averaging 11 to 17 percentile points higher than those who did not. CASEL also found that the programs studied were effectively implemented by school staff rather than outsiders, "suggesting that these interventions can be incorporated into routine educational practice' (Payton, et al., 2008). The first step to a successful social emotional learning curriculum is the adult proficiency in the social emotional competencies. This study could assist adults in becoming more self aware and understanding where they have strengths and weaknesses. As a school building or district this data could be used to shape and design professional development for adults within the building which would therefore, in theory, result in better student social emotional skills and higher academic achievement.

Our personal beliefs are our reality. They drive what we do, persuade how we act and put attention toward. Beliefs can determine positive and negative outcomes in all

aspects of life. If teachers are able to truly understand their beliefs in the areas of self

regulation, resilience, and sensitivity to classroom situations, their overall quality of life

could improve and result in a more positive existence. In a traditional classroom,

teachers are expected to run their day based on an academic focus. This study could shed

light on the importance of social emotional needs of both the adults and the students in

the classroom. One could even conceptualize that a good classroom manager is able to

show power and control through relational influence. When students are upset and

exhibit high levels of affect an empathetic and regulated response often calms the

situation.

CASEL (Collaborative Association for Social and Emotional Learning) defines

social emotional learning as the process through which children and adults understand

and manage emotions, set and achieve positive goals, feel and show empathy for others,

establish and maintain positive relationships and make positive decisions. CASEL has

completed an enormous amount of social emotional learning research and is used across

the world as schools begin to implement social emotional learning competencies within a

daily routine. An implication from this study would be to implement a social emotional

framework within a school or district. Social emotional learning is not just a set of

competencies that can be taught and checked off. Social emotional learning is a way of

life, a culture, a means to establish a strong, high achieving culture. If districts were to

use the questionnaire given in this study, gaps as to where social emotional learning

needs to occur could be identified and teachers may become more aware of their own

beliefs. The questionnaire could be given as a pre/post survey before and after professional learning or goal setting occurred to show personal gains.

According to an Iowa ACES 360 trauma research study adults who experienced four or more ACEs indicate a significant level of childhood trauma that greatly increases the risk of poor outcomes. Those experiencing four or more ACE's compared to those with zero are: 1.47 times as likely to have cancer, 1.88 times as likely to have diabetes, 2.38 times as likely to have arthritis, 3.11 times as likely to have a stroke, 4.29 times as likely to have COPD, and 6 times as likely to have depression. These results have been proven over several years within many research studies. The cutoff score used for increases in health and behavioral risks among adults is those having four or more ACE's. This study aligned with the current research. In each of the categories; self regulation, resilience, and sensitivity, the average score on the Self regulation/Resilience/Sensitivity scale developed for this study for those with four or more ACE's was higher than those with three or less ACE's. While knowing and reporting a personal ACE score is private and confidential this relationship could begin to help teachers understand how their ACE score affects their biological, psychological, and career health. The average scores on the Self regulation/Resilience/Sensitivity scale developed for current study shows teachers with an ACE score of four or above show a possible relationship between higher self awareness and confidence in the ability to work with students showing dysregulated behaviors. The importance of this finding shows the alignment of significance within the cutoff score of four ACE's. An implication of this could be helping teachers understand the health issues tied to the statistic of having four

or more ACE's and their resilience in the classroom. Is this something a wellness team within the district could look into from a group perspective so as not to divulge individual confidential ACE scores? Could a wellness plan develop based on the current study showing pockets of teachers within a district who may need additional support due to traumatic events in their lives?

Recommendations for further research

It is recommended that the Self regulation/Resilience/Sensitivity scale developed for current study be implemented in additional school districts spanning other states and within urban, suburban and rural areas. This data could assist in showing the significance of the current research. A pilot study based on current results within this study could be implemented using the recommendations listed in the areas for professional learning growth.

As the survey continues, better teacher demographic data could be collected. This data could include but not be limited to race, educational level (bachelor's degree, masters degree, specialist degree, doctoral degree), subject taught if secondary, special education vs general education data, and/or student demographic data.

As further studies in this area unfold, could extended research help create statistically significant bands of scores within the Barnett instrument for school buildings and districts to use as a screening tool for school culture or for hiring teachers with strengths in the areas of resilience, self regulation, and sensitivity. In addition, if bands were large enough insurance companies could use the data to anticipate health needs

based on reported ACE scores and research showing significant differences in adults with four or more ACEs.

Finally, professional learning modules need to be created for each of the belief areas within the study: resilience, self regulation, and sensitivity. Once these are created teachers could be trained to use them to show the correlation between adverse experiences during childhood and beliefs in the classroom. An overall awareness of the global sensitivity toward adults and children could show a positive cultural impact.

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