AN ASSESSMENT OF A TEXAS-BASED NON-PROFIT'S TRAUMA-INFORMED

GED PREP PROGRAM

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by

Gary W. Audas Jr.

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AN ASSESSMENT OF A TEXAS-BASED NON-PROFIT'S TRAUMA-INFORMED

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DEDICATION

This work is dedicated to the countless millions of learners, across space and time, who have had their futures truncated by an inability to access quality educational outcomes.

ABSTRACT

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This investigation focused on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional, physical, and sexual abuse, neglect, homelessness, and poverty. The investigator will analyze *ged.com pretest* scores (pretest and posttest) for Cohen's *d* effect size in specific *ged.com* subject matter pretests in a Texas-based non-profit's trauma-informed GED prep program. Further evaluation of individual *ged.com pretest* subjects will seek additional effects and/or practical significance via a one-way ANOVA. In this instance, *ged.com pretest* scores were grouped by subject matter, math, reasoning and language arts, science, and social studies for analysis. This research seeks to quantitatively assess whether there is an effect related to the trauma-informed literacy practices of strong student-teacher relationships and the creation of *felt safety* in classroom settings on adult learners in a Texas-based non-profit's trauma-informed GED prep program.

An analysis of the Texas-based non-profit's archival data supports the assumption that trauma-informed literacy practices create a large effect on *ged.com pretest* scores for students in their trauma-informed GED prep program. Additionally, those students showed significant growth in *ged.com pretest* scores between pretest and posttests. The abstract should also describe the findings, conclusions, and implications of the study. Further, positive results were present in the one-way ANOVA analysis as well. Findings presented in the medium and large effect size for the analysis of *ged.com pretest*/posttest scores with particular growth in the science subject matter area.

KEY WORDS: Trauma-informed literacy; Trauma-informed education; *Felt Safety;* GED prep programs; Student-teacher; Andragogy; Critical Literacy; Trauma; *ged.com* pretests.

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CHAPTER I

Introduction

"[T]he sociologist Elise Boulding once said. "If one is mentally out of breath all the time from dealing with the present, there is no energy left for imagining the future."

(Fisher, 2019)

Trauma-informed literacy practices open doors for students who are beginning their journeys towards educational empowerment. Trauma affects learners of all ages. Its hold over a person's psychological and physiological makeup is often a seemingly insurmountable barrier preventing them from moving forward in any educational process. It is proposed here to present results from an assessment of a Texas-based non-profit's trauma-informed GED prep program focused on non-traditional and marginalized students; students who have or are still facing abuse, neglect, and homelessness. Yet, they are seeking to move forward towards their GED certification.

Background of the Study

This introduction will explicate issues related to an array of factors termed traumatic, encompassing emotional, physical, and sexual abuse, neglect, and homelessness as well as poverty, and link these potential difficulties, to this study's participant's ability to make progress in a Texas-based non-profit's trauma-informed GED prep program which focuses on non-traditional and marginalized students. The terms trauma and literacy will be defined and grounded in the context of the study. An explanation of the emerging field of trauma-informed literacy will be given. Characterization of key trauma-informed literacy best practices will be provided. An

interpretation of trauma's effects on learning will be supplied as well. Placing trauma-informed literacy and the disempowerment of adult literacy learners touched by traumatic events into a broader academic discourse is an important research goal.

What is Trauma?

The Substance Abuse and Mental Health Services Administration (SAMHSA) defined trauma as being "an event, series of events, or set of circumstances that are experienced by an individual as physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (SAMHSA, 2019). These *events* often result from learners having been exposed to a disparate sampling of negative experiences such as aging out of the foster care system, refugee displacement, sex trafficking, homelessness, or generational or situational poverty. In *The Vulnerable Heart of Literacy: Centering Trauma as Powerful Pedagogy*, Dutro (2019) asserted that trauma is "The hovering pasts, both haunting and comforting; the apparitional futures, shimmering with promise of beauty and threat of disaster" (p. 2). It is that threat of disaster, from things real and imagined, that obstructs the educational opportunities for many learners. Further, traumatic events vary in intensity and vary with the person's ability to respond to the disarray and often-long-lasting effects (LaPlance & Pontalis, 1973). No two people react the same way to a traumatic event. Additionally, childhood exposure to trauma can cause adverse consequences when that child reaches adulthood. "Early life adversity is a major risk factor for development of psychological and behavior problems later in life" (Baracz & Buisman-Pijlman, 2017). The National Child Traumatic Stress Network (NCTSN) (2018), an amalgam of community-based service centers and academia,

described traumatic stress as occurring when a learner experiences traumatic events or situations that overwhelm their ability to cope. Students of all ages endure trauma and live daily with its effects, but what is trauma-informed literacy and why is it becoming an emergent topic in the field of literacy?

Trauma-Informed Literacy

What is Literacy? The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defined literacy as

> ". . . the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society" (Montoya, 2018, p. 2).

Additionally, the National Assessment of Adult Literacy described literacy as being made up of two parts. One, task-based or conceptual literacy where "printed and written information [are used] to function in society, to achieve one's goals, and to develop one's knowledge and potential" (White & McCloskey, forthcoming). And two, skills-based or operational literacy that highlights the successful use of printed materials to access word-level reading skills and higher-level skills.

What is Trauma-Informed Literacy? Teachers, volunteers, and administrators with a broad understanding of key trauma-informed practices such as strong student-teacher relationships and creating safe spaces should expect several positive outcomes in students and their broader learning community (Baker, 2006; Dods, 2013; Dutro & Bien,

2014; Ennis & McCauley, 2002; Krstic, 2015; Livingstone et al., 2014; Schwartz, 2019; Terada, 2019). By addressing the very real barriers to educational growth presented to learners due to trauma and its effects, teachers can begin to open pathways to student empowerment, fulfillment, and advancement that might otherwise remain closed. Providing teachers and associated staff with a better understanding of trauma's effects on the learning process and how better to combat those effects is a critical issue internationally. Prominent examples highlighting the criticality of this issue include the United Nations who made universal education a key component of their Millennium Development Goals, as well as major foundations such as The Ford Family Foundation and The Bill and Melinda Gates Foundation, each, have policy initiatives promoting education on trauma's effects on literacy. Further, in the United States, many states, among them Illinois, Vermont, and Wisconsin have passed legislation concerning trauma-informed practices specific to schools. The State of Texas, in 2019, passed Senate Bill 11 which "proposed rules to assist and guide local education agencies (LEAs) in implementing the Safe and Supportive Program (SSSP) and trauma-informed care training" (Maul, 2017; Texas Education Agency, 2020; The Bill & Melinda Gates Foundation, 2020; The Ford Family Foundation, 2019; United Nations Development Programme, 2020).

Trauma-informed literacy is closely related to the broader field of trauma-informed education with origins in both the medical profession and the judicial system (McInerney & McKlindon, 2014). Scholarship has frequently discussed trauma's effects on the physiological or psychological well-being of a person and extrapolated those effects onto students in learning spaces (Child Welfare Information Gateway, 2015;

Cunningham, 2004; Hambrick et al., 2019). Curie (2018) asserted that trauma-informed care had its roots in the treatment of veterans returning from the Vietnam War and later the recognition of post-traumatic stress (PTSD) as a medical disorder in 1980 (Friedman, 2007). The SAMHSA (2018) created a set of best practices for professionals working with clients exposed to traumatic experiences including [felt] safety, trustworthiness and transparency, peer support, collaboration, and support, empowerment, voice, and choice, and an emphasis on cultural, historical, and gender issues. Additionally, because of the "long-lasting impact and prevalence of adverse childhood experiences, trauma-informed care is applied now in a wide range of settings including mental health and substance abuse treatment facilities, child welfare systems, schools, and criminal justice institutions" (Curie, 2018; youth.gov, n.d.).

The relationship between trauma's effects, both mentally and physically, on the individual are directly related to their abilities to perform in classroom spaces (Brunzell, et al., 2016a). Ten million children are exposed to some type of traumatic event each year in the United States and schools across the country are populated with these learners (SAMHSA, 2019). Trauma causes a multiplicity of effects, including the inability to embrace complexity, loss of creativity, and the inability to listen (Sizemore, 2016). Finn (2010) intimated that PTSD caused headaches, difficulty with concentration, and beginning new tasks. Each of these trauma-related effects works to the detriment of educational empowerment and positive literacy-specific outcomes. Craig (2016) pronounced: "Trauma is not just a mental health problem. It is an educational problem that, left unaddressed, derails the academic achievement of thousands of children" ("Forward" section). However, she offered hope, attesting "A sea change is coursing

slowly but resolutely through the nation's school system" ("Forward" section). That sea change is trauma-informed literacy and its attending practices.

Trauma-Informed Literacy Practices? Classrooms, both nationally and internationally, are in critical need of trauma-informed literacy interventions to better empower learners: "[Forty percent] of students in the United States have been exposed to some form of traumatic stressor in their lives" (National Child Traumatic Stress Network, 2014). In Europe, adolescent exposure to trauma fluctuated dramatically from 14% to 70% (Alisic, 2012). Do et al. (2019) ascertained that 47% of their study's participants from Southeast Asia "experienced at least one traumatic event in their lifetime and about half of these people were exposed to multiple traumas." A South African study indicated "high rates of trauma, PTSD, depression, and anxiety" in 10th graders (Suliman et al., 2009, p. 125). Suarez-Morales et al. (2017) described 76% of Hispanic youths, then enrolled in Los Angeles public schools, reported experiencing violence in their home country, and that girls registered higher PTSD effects than boys. Brunzell et al. (2016b), whose meta-analysis of trauma-related research confirmed that many teachers faced the challenges of educating trauma-affected students. Those students presented a range of symptoms and behaviors including attention-deficit hyperactivity disorder (ADHD), peer bullying, school refusal, conduct, and oppositional defiance disorders, distracted or aggressive behavior, limited attentional capacities, poor emotional regulation, and/or hypervigilance (Alisic, 2012; Brunzell, et al., 2016a, 2016b; Koso & Hansen, 2006). Trauma-informed literacy practices vary depending on the practitioner and the learning space. However, they follow critical templates, among them, basing a school's culture firmly on understanding and responding to trauma, creating felt safety in all learning

spaces, strong professional development in social-emotional learning (SEL), and dynamic student/teacher relationships (Alisic, 2012; CASEL, 2020; Soma, 2017; Venet, 2018).

Lev Vygotsky (1978), a leading educational and psychological theorist, centered his worldview on concepts associated with two of trauma-informed literacy's prominent tenents. One, the creation of felt safety by promoting cultural change in learning spaces, and two, advocating for teacher-students relationship. Vygotsky (1978) promoted the general theoretical view that his work should be celebrated as an attempt to eradicate illiteracy and extend the potential of individuals through learning. He adhered to the idea that behavior developed in a societal context, suggesting that culture becomes a part of a person's nature. The culture provided by strong teacher-student interplay is no different. If students are inculcated in a rich, warm, healthy, and supportive environment (*felt safety*) they will thrive. He maintained that changes in the cultural forms of behavior could be changed in the course of development. Additionally, he emphasized that with the internalization of new cultural norms behavioral transformations could occur as well, stating: "the mechanism of individual developmental change is rooted in society and culture" (p. 7). It is asserted here that culture can be macro-cities, countries, civilizations, or micro, on the school or classroom level. His theories are centered on the creation of a new cultural norm where students could begin to move away from trauma and its effects.

Promotion of Strong Student-Teacher Relationships. Student-teacher interactions and their potential for reducing the barriers erected by trauma is a critical component of this investigation. Research is replete with the efficacy of creating strong student-teacher relationships (Baker, 2006; Ennis & McCauley, 2002; Korbey, 2017; Krstic, 2015; Livingstone et al., 2014; Schwartz, 2019; Staufenberg, 2018). Krstic (2015)

". . . indicated that children's well-being in school and the emotional quality of teacher-student interactions are fundamental for school adjustment, learning, and achievements" (p. 167-168). Korbey (2017) agreed, commenting on her school's attempts to create a new powerful trauma-informed culture. "Every student needs to belong and connect to at least one teacher or one adult in this building every day" (p. 2). In addition to strong student-teacher relationships, the creation of *felt safety* in learning spaces is an additional and critical trauma-informed literacy practice.

Felt Safety. Learning spaces "where students can freely express their ideas and feelings, particularly around challenging areas such as diversity, cultural competence, and oppression" (Holley & Steiner, 2005, p. 49) are the definition of *felt safety* for this research. The National Child Traumatic Stress Network (NCTSN) (2018) touted the necessity of providing ". . . a safe place for the child" to learn (p. 5). *Felt safety* is the watch word for ". . . a classroom climate that allows students to feel secure enough to take risks, honestly express their views, and share and explore their knowledge, attitudes, and behaviors" (Holley & Steiner, 2005, p. 50).

Problem Overview

Often, historical factors related to perennial disenfranchisement are influenced by sociocultural and socioeconomic elites as well as state-level discrimination. This can be trauma-inducing for those left out of existing power structures. Exposure to trauma, and what Freire (2017) in his *Pedagogy of the Oppressed*, called the coopting of literacy an "instrument of oppression" (p. 7) and that it was causally related to truncated outcomes hindering upward mobility and liberation. Two paradigms, historical disempowerment of at-risk populations and state-level actors seeking to exclude people of color from joining

existing hegemonic socioeconomic and sociocultural elites, existed, and played and continue to play a dominant role in marginalizing the participant population. Further, that the traumatic effects of each of these considerations have caused significant barriers to GED certification. Giroux (2014) argued that ". . . education has become a site of pedagogical repression, robbing students of the ability to think critically . . . low-income and poor minority students increasingly find themselves in schools in which the line between prison culture and school culture is blurred" (p. 184).

Adult learners who have had traumatic experiences, either simplex or complex, face a raft of issues associated with reduced educational outcomes including, but not limited to, deficient economic outputs resulting in generational or situational poverty, homelessness, or constricted health possibilities (Emdin, 2008; Jensen, 2009 & 2013; McInerney & McKlindon, 2004; Newkirk, 2009). McLaren et al. (2009) labeled this the "pauperization of the working class" (p. 55) and characterized this being in opposition to critical literacy's quest for "universal liberation" (p. 55). Fukuyama (2010) indicated that this "universal liberation" through upward social mobility was for many American families, not a prevalent phenomenon and that elites "game[d] the political system" (p. 8) to their advantage. The U.S. Department of Education reported that 43 million American adults possessed low literacy levels (OECD, 2013). Low literacy was defined as those lacking "the ability to understand, evaluate, use and engage with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential" (p. 61). Freire pronounced low literacy as the "thinner gruel of educational nourishment, literacy which was confining and repressive instead of enlightening and emancipating" (Freire & Macedo, 2005, Location No. 71).

Seventy percent of all children who have lived in poverty will drop out and low-income families are five times more likely to leave school than their wealthier counterparts (Alliance for Excellent Education, 2008; Chapman et al., 2011; Fukuyama, 2011; Hernández, 2012; Jensen, 2013). Wilkinson and Pickett (2009) admonished that inequality breeds social dysfunction and that "social problems, including mental illness, violence, imprisonment, lack of trust, teenage births, obesity, drug abuse, and poor educational performance of school children, are also more common in more unequal societies" (p. 493).

A U.S. Department of Education (2014) report indicated that the average yearly income for persons, male, and female 20 to 24-years-old, with less than a high school diploma, was $11,870, only $200.00 above the poverty line for that year (People Keep, 2014). Juxtaposed to this, the Centre for Family Research at the University of Cambridge (2020) demonstrated that British school-age boys had their socio-economic status linked to key thinking skills and executive function. "Those from wealthier families typically performed better in tests of their executive functions, while those from less-affluent backgrounds did worse."

Having a home provides security allowing for the development of positive mental health (Martin, 1991). Homelessness can cause emotional trauma and many children who have suffered through homelessness "have developmental lags, delays in physical, social, cognitive, and language development" (p. 21). In adults, this can lead to depression, feeling overwhelmed, or the inability to cope often becoming hereditary and cross-generational with impacts passed on from parent to child (Martin, 1991; Nievergelt et. al., 2019; U.S. Department of Education, 2016; Zajacova, 2012).

Each of these traumas, homelessness, the scarcity of financial opportunities, and poor health become the source of generational and historical disempowerment. Shor's (1999) supposition that one's experiences, including those related to literacy as they are historically constructed within specific power relations, presented the opportunity to examine these prevailing social, economic, cultural, nationalistic, linguistic, religious, and ethnic forces as they were historically contrasted with at-risk or marginalized populations seeking to enter the better world offered to them through literacy achievement.

The participants of this study, trauma-affected adult literacy learners seeking GED certification, represented just such a circumscribed population. They are deeply intertwined with the previously described at-risk modalities and they, their children, and their broader social and cultural group live in a feedback loop of diminished realities and outcomes. By providing research related to trauma's effects on learning this investigation focused on providing a broader understanding of the phenomenon in the hope of providing a trauma-informed literacy practices toolkit for educators, the world over, inhabiting learning spaces where this menace existed.

Trauma's Effects on Learning

Brunzell et al. (2016a) emphasized that trauma is an overwhelming experience that can undermine the individual's belief that the world is good and safe and that persons that have experienced trauma, either simple or complex, can face long-term damage to neurological and psychological systems that can affect key schooling outcomes. Trauma disturbs the processes used by children, adolescents, and adult students to learn. How trauma raises barriers, and how teachers can work to remove those barriers for adult

learners is a critical research question addressed here. Prominent literacy-related exemplars highlighted reduced cognitive capacity, feature inabilities related to cause and effect, the visualization of successful outcomes, seeing the potential in themselves or their situation, learners lack problem-solving acumen, are unable to focus or pay attention, have self-reflection issues, and are unable to engage in abstract thinking. Harvard's Center on the Developing Child (2011) asserted that learners with cognitive limits cannot solve complicated problems, make decisions, persist in tedious tasks, make plans, and adjust them, when necessary, recognize and correct mistakes, control impulsive behavior, or set goals and monitor progress towards meeting those goals, is paired with reduction of executive function, losses in working memory and cognitive flexibility. Hart and Rubia (2012) considered that abuses and early life stress were associated with cognitive challenges such as low academic performance, a reduced IQ, deficits in language, memory, as well as issues with attention span (Dutro, 2019; Emdin, 2016; Fisher et al., 2016; Fisher, 2016; Frelin et al., 2018; Kerka, 2002; Kisiel et al., 2018; McInerney & McKlindon, 2014; Phifer, & Hull, 2016; Siegel & Bryson, 2012; Walsh, 2019).

Exposure to trauma and the advancement of stress-related disorders such as posttraumatic stress disorder (PTSD) is well documented in the literature (Borba et al., 2016; Chrisman & Doughtery, 2014; Drury & Wiliams, 2012; Kar, 2009; Peltonen & Punamaki, 2010). "Children living in war conditions experience multiple challenges and traumas" (Diab et al., 2018, p. 2). Their investigation on trauma's effects on 303 Palestinian children from Jabilia Camp in the Gaza Strip observed that children living in war conditions experienced multiple challenges and traumas, which burdened their

development, well-being, and academic achievement. Numerous indicators, such as motivational beliefs, parental involvement, and learning strategies were all analyzed (pp. 10-11), and results informed that trauma (high levels of stressful life events) was directly endogenous with low academic achievement. Further, Brunzell et al. (2016b) maintained that high exposure to traumatic experiences was significantly associated with low parental involvement in scholastic achievement. Research apprised that the lack of parental engagement and the absence of an enduring relationship with another person (e.g., parent, caretaker, teacher, or friend) caused disrupted attachment styles. Supplementary results from Diab et. al. (2018) reported that a high level of stressful life events was associated with dysfunctional beliefs and strategies which in turn were associated with low academic achievement.

This introduction has so far addressed multiple issues related to an array of factors termed traumatic, encompassing emotional, physical, and sexual abuse, neglect, and homelessness as well as poverty, and linked these types of problems, to this study's participant's ability to make progress in a Texas-based non-profit's trauma-informed GED prep program which focused on non-traditional and marginalized students. The terms trauma and literacy were defined and grounded in the context of the study. An explication of the emerging field of trauma-informed literacy was given. Characterization of key trauma-informed literacy best practices was provided. An interpretation of trauma's effects on learning was supplied as well. Placing trauma-informed literacy and the disempowerment of adult literacy learners touched by traumatic events into a broader academic discourse is an important research goal.

Problem Rationale

Can GED certification play a role in successful outcomes for adult learners? Greene (2002) says no emphatically; calling the exam a "conjuring trick that makes real graduation rates disappear." Meeker et al. (2008) agreed and stated, "that a GED is not as good as a high school diploma" (p. 1) and (Zajacova, 2012) believed that "the GED's value is predicated on the assumption that the degree is comparable to the regular high school diploma" (p. S284). Greene (2002) cited Nobel Prize winners Heckman and Cameron whose work "found GED holders to be statistically indistinguishable from other high school dropouts" informing that GED certification did not make a person more likely to find higher-paying jobs.

Not all research associated with GED certification is negative or disheartening. Golden et al. 2005 cited an American Council on Education study which reported that "approximately 70% [of GED graduates] outperform at least 40% of high school seniors on whom the tests were normed" (p. 311). Thiele & Sloan (1984) asserted that "Many employers were impressed with the improved self-image of GED completers" (pp. 1-25). And Caputo (2005) contended that GED certificate holders "have better mid-life outcomes than high school dropouts on measures of assets, family income, depression, and self-reported physical illnesses" (p. 73). Economically there are advantages as well; GED receivers earned about $3,100 each month while high school dropouts made approximately $2,400 (Revermann, 2017).

This research focused on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional abuse, physical and sexual abuse, neglect, homelessness as well as poverty. The investigator sought effects

between the participant's trauma and their ability to make progress in a Texas-based non-profit's trauma-informed GED prep program which employed trauma-informed literacy practices such as the creation of *felt safety* in learning spaces and strong student-teacher relationships to aid learners toward their GED certification. This program focused on non-traditional and marginalized students who had in the past or while enrolled in the GED prep program, faced traumatic events. The investigator did not qualitatively or quantitatively examine historical factors related to perennial disenfranchisement influenced by sociocultural and socioeconomic elites as well as state-level discrimination.

Research Methodology and Research Question and Sub-Question

This quasi-experimental research, bounded by the following dates: October 21, 2016, and May 28, 2021, will analyze pretest results administered via ged.com, and the results will be evaluated for mean difference effect size (Cohen's *d*) and checked for statistical significance through SPSS using a paired sample *t*-test. Further evaluation of individual *ged.com pretest* subjects will seek additional effects and/or practical significance via a one-way ANOVA. In this instance, *ged.com pretest* scores were grouped by subject matter, math, reasoning and language arts, science, and social studies for analysis. This investigation will inform on questions related to the efficacy of trauma-informed literacy practices, such as strong student/teacher relationships and the creation of *felt safety* in learning spaces on adults enrolled in a Texas-based non-profit's trauma-informed GED prep program.

The research question and sub-question analyzed here:

1. What effect, if any, does the use of trauma-informed literacy practices have on multiple adult GED student's *ged.com pretest* scores in each subject matter tested?

   a. What effect, if any, does the use of trauma-informed literacy practices have on adult GED student's ged.com pretest/posttest scores by subject? ged.com pretest subject matter areas to be examined are math, reasoning, and language arts, science, and social studies.

Significance and Relevance

This research and its implications are relevant to discussions about how best to create learning environments where less empowered learners can move forward in realizing their potential. By providing adult learners with a learning environment that celebrates strong relationships between student and teacher and creating *felt safety* in learning spaces, they can generate a more empowered future for themselves and their families. Examining programs where trauma-informed literacy practices are prevalent can create a new dynamic for learning spaces. This research adds to that body of knowledge by creating a potential blueprint for adult learning spaces and testing the efficacy of trauma-informed literacy practices. Its results can be extrapolated into a variety of learning spaces, not only for adult learning but K-12 classrooms as well.

GED programs owe their foundations to concepts related to adult basic education thinkers such as Freire and Macedo who developed critical literacy to better serve learners languishing in poverty (Brinkley-Etzkorn, 2016; Freire & Macedo, 2005; Freire 2017). Conceptualizing this study with critical literacy as well as an examination of the generational disempowerment of at-risk populations via a historical lens will be introduced in the next section.

Theoretical and Conceptual Framework

"Their only argument is justice. But justice, poorly argued, is no match for the acquired

ingenuity of the successful"

Kozol, 1991, p. 218.

The theoretical and conceptual framework for this investigation was grounded in two complementing bodies of literature. First, Critical Literacy Theory was examined through the works of leading theorists such as Paulo Freire and Ira Shor. This theoretical framework grounded the research and provided an appropriate lens from which to analyze the findings. The second framework concentrated on viewing generational educational circumscription via a historical lens and examined various power dynamics related to the enrichment of individuals, groups, and/or national entities at the expense of others, the *other* being trauma-affected learners, persons of color, poor people, immigrants, those with language barriers, and abused and homeless people to mention a few. Exposure to multiple examples from history informed on this phenomenon and provided context to the research's intimation that sociocultural and socioeconomic factors related to literacy acquisition are dominated by an elite seeking to purposefully exclude people of color, and other at-risk populations, from the rewards associated with educational attainment.

Theoretical Framework: Critical Literacy Theory

"Critical theory is the social theory oriented toward critiquing and changing society as a whole. Critical theories aim to dig beneath the surface of social life and uncover the assumptions that keep human beings from a full and true understanding of

how the world works" (Crossman, 2020). Paulo Freire's (2017) concepts are deeply rooted in critical theory. His *Pedagogy of the Oppressed*, first published in 1970, has become the guidebook for how literacy can become structured as one of inclusion instead of a gesture towards an insuperable status quo. His work was driven by assumptions that popular education could provide a vehicle for "consciousness-raising and empowerment" (Livingstone et al., 2014, p. 286) despite the origins or circumstances of the learner. (Freire & Macedo, 2005; Freire, 2017; Shor & Freire, 1987). His discussion of student-teacher relationships is fundamental reading for those seeking a blueprint on how to rise above historical relationships perpetuating oppression and disempowerment (Freire, 2017, pp. 44-59). Arguing that teachers who "expound on a topic completely alien to the existential experience of the students" are bound to further the student's disillusionment (Freire, 2009, p. 71). Newkirk, (2009) agreed, "The surest way to alienate any group is to indicate that their allegiances and interests are not respected" (p. 109).

Shor (1987, 1999; Shor & Pari, 1999) asserted that literacy should challenge the status quo to discover alternative paths for self and social development. He asked a critical question: Can critical literacy, be used for rethinking worlds, for rethinking our lives, and for promoting justice in place of inequity? "[C]ritical literacy is understood as learning to read and write as part of the process of becoming conscious of one's experience as historically constructed within specific power relations" (Shor, 1999, p. 2). Shor suggested that understanding historical models as they related to literacy was essential to understanding the disenfranchisement of large swaths of learners throughout history.

Literacy for Empowerment

Kozol (1991) intimated that society can accept the transfer of advantage via inheritance, on a limited basis but that an "aristocracy padded and protected by the state itself from competition from below" (p. 250) is countervailing to a broader sense of justice and should not be able to perpetuate itself. Glaeser (2012) commented that families, ethnicities, countries, and cultures without strong traditions related to learning cannot pass these on to the next generation. This enhances and prolongs their powerlessness. "[E]ducation perpetuates itself as one smart generation teaches the next" (p. 18). Literacy can be a crucial element on the path to financial success. For example, the average yearly income for a person holding a U.S. bachelor's degree is $59,124; a master's degree is $69,732 (Josephson, 2018). Positive results manifest themselves in learners who enter into power structures populated by either the dominant culture or financial elites. Entry is often impaired for those not possessing adequate language skills, those who have been culturally or religiously stigmatized, or those facing obstacles to school integration due to immigration or resettlement trauma. This access/acceptance is often blocked by power elites seeking to perpetuate the fission of knowledge for their groups' overall benefit. Often these avenues to success and inclusion are closed resolutely and are meant to be entry restrictive.

Critical Pedagogy Through a Historical Lens

Creating a homogenized narrative has often been the centerpiece of civilization. Controlling the origin story of a race, nation-state, or religion has been a powerful tool used to govern, enrich, or enslave individuals throughout history. A key component in this act is the co-opting of literacy by those in power. Literacy is defined here as

". . . The ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society" (Montoya, 2018, p. 2).

Literacy is often viewed through the lens of those in authority, via political, economic, or religious mechanisms (Banton-Smith, 2002).

These tools of repression, which have exerted themselves on new learners for centuries are the fascinating macrocosm explored here. In *A History of Reading* (2014), Manguel argued that "the history of reading is the history of its readers" (p. 22). How those readers are created sits at the heart of power assumptions associated with literacy. It is intimated here that *power* is strongly associated with *control*. By controlling access to quality education services hegemonic elites and their socioeconomic and sociocultural members are directly affecting economic and quality of life outcomes for populations such as this research's participants.

Determining who sets the agenda related to literacy achievement is crucial to comprehending the premise that control of that process has been generationally manipulated to skew that system against people of color, those living in poverty, and those without adequate language skills to interact in the dominant culture. Next an examination of W*ho?* holds the power with multiple historical examples of educational disempowerment will be explored to better illuminate the premise of the conceptual framework. Citing examples via a historical lens creates an evidentiary trail from the past to the present illustrating the premise that powerful elites have, time after time, used their

positions to protect their position and in doing so have hampered positive outcomes for millions of people.

Conceptual Framework, Power: Who Decides? Educational Disempowerment Through a Historical Lens

"Man will get used to anything, if only he reaches an appropriate degree of submission"

C. Jung from (Kapuscinski, 1978).

VeneKlasen & Miller (2007) maintained that having power *over* others is how power is most universally understood and that this type of power was built on force, coercion, domination, and control. Others, among them Mathie et al. (2017) and Starhawk, (1990) contended fear is a key factor in the creation of this type of power dynamic and that governments, elites, religious figures, or those who are mentally and physically capable can assert this type of power more effectively. It is built on a belief that power is a finite resource that can be held by individuals, and that some people have power and some people do not. History is rife with powerful figures controlling the literacy narrative for millions of people across generations.

Powerful persons use an array of existing mechanisms to create a usufructuary relationship regarding literacy's benefits. Among them, but not limited to is the governmental control of access via financial benchmarks, a national language requirement, or outright segregation of religious, ethnic, or cultural groups (Berkeley, 2001; Busol, 2020; Evered, 2012; Fresh Air, 2019). Many instances will be elucidated here of the powerful seeking to negate entry into, or in some way reduce, access to educational empowerment. Examples from history as well as contemporary examples

will be used to make clear the current crisis of denying access to critical literacy skills to marginalized populations.

"Big Men-that is politicians who distribute resources to their relatives and supporters-are ubiquitous in the contemporary world" (Fukuyama, 2010, p. xiv). In the North Korean political caste system status and privilege are passed down through the family. The leadership and its sturdiest proponents see these benefits in access to goods, education, and housing that become static and generational, while persons touched by capitalism or those seen to collaborate with outsiders are often imprisoned and excluded from society (Josephson, 2018; McBrien, 2005; The Jamestown Foundation, 2017). The problem is not always situated in some far away dictatorship, in parts of the United States, learners are often seen to be suitably educated, and "schools are doing a sufficiently good job if the kids of poor folks learn enough to cast a vote-just not enough to cast it in their own self-interest" (Kozol, 1991, p. 261).

State or National Control of Literacy: Access

Throughout much of history, the "state has constituted the principal instrument of personal advancement" (Sandbrook & Barker, 1985, p. 67). Governmental elites, the civil service, political groups, ruling families, or tribal units, can tightly control access to a state's munificence and influence. In *The Origins of Political Order* prominent political scientist Francis Fukuyama (2010) echoed John Locke when he acknowledged that the state was certainly necessary but that the state can become a "denier of rights as well." (p. 27) Further, that, "elites have little or no interest in implementing democratic institutions that would dilute their power" (p. 5). By regulating entry to government largesse power grows for the initiated. Access to its bureaucracy is open only to other highly educated or

connected elites and becomes nepotistic and hereditary. "Poor countries are poor not because they lack resources, but because they lack effective political institutions" (p. 14).

There are manifold examples from history that highlight this research's premise that control of access to literacy by elites, both sociocultural and socioeconomically, and at all levels of government, has provided the tools of repression so fervently theorized by critical literacy proponents (Freire & Macedo, 2005; Freire, 2017; Shor & Pari, 1999; Shor, 1987). History is replete with examples of this phenomenon; for this research, an emphasis was given to the United States during the *Massive Resistance* movement of the 1950s that fought against the desegregation of the U.S. school system as well as a snapshot from contemporary America centering on the still pervasive issue of inequality concerning literacy. These two examples from the recent history of the United States provided a vivid representation of the ongoing and systemic oppression faced by at-risk populations and people of color. Africa illustrated the repression of literacy during the colonial era and more recent exemplars from modernity were used to illuminate the role of state education policy in fueling conflict and the denying of economic empowerment and upward social mobility. A further instance from modern Russia was examined to provide insight into issues related to cultural and linguistic differences within the Russian zone of influence. The investigator inquired into the politics of the education reforms carried out in the mid-19th century Ottoman Empire to provide a counterpoint to western-centric, European, and North American, educational norms. The Ottoman period touched on a multiplicity of conflict areas regarding literacy suppression, among them language, status, religion, and allegiance to the state. The following sections will offer more specific historical descriptions.

The United States. Western-centric countries, those having democratic institutions, free elections, open market economies, and who have traditionally been described as evolving from the western European national tradition, have used the power of their governments to create inauspicious outcomes for their citizens. Race and social class were often the lines of demarcation between access and empowerment and poverty and exclusion. The United States provided an apt modern-day example of state control over both educational resources and educational opportunities. The dearth of access to literacy for those living in poverty, African Americans, and other people of color as well as those facing language barriers or are newly arrived immigrants is often overwhelming. (Bartley, 1969; McRae, 2018; Wikimedia Foundation, 2020).

The United States can be upheld as an exemplar of success. It was consistently the number one economy for a large part of the 20th century, has had the world's highest number of Noble Prize laureates at 336, and is seen as a world leader in research and technology. This is especially true regarding the quality of education a person can receive there. Seven of the top-ten rated colleges in the world are in the U.S., among them Harvard, Yale, and Columbia. The educational system of the U.S. provides distinct advantages for those learners possessing the sociocultural and socioeconomic benefits to navigate its upsides and pitfalls. Pertinent to this is whether students or their families can assume the expense. However, this largesse does not always filter down to all potential learners. Students who have faced traumatic experiences, poverty, abuse, both physical and emotional, homelessness, or sexual violence, are among those who have not always benefited from the American system. Additionally, people of color, African Americans, and Latinos, overwhelmingly live in impoverished conditions. These drawbacks

frequently hinder empowerment through education. There are "distinct codes and rules of engagement" that trauma-affected learners do not possess (Emdin, 2016, p. 3). (Kirk, 2015; thebestschools.org, 2019; Wikimedia Foundation, 2020, August 6; Wikimedia Foundation, 2020, July 4).

A dichotomy is pervasive throughout American society. The U.S. provides at least access to universal education from kindergarten through the 12th grade as well as trade schools, andragogy courses, and higher learning vis junior colleges and universities. The reality for many Americans is a society where millions languish in poverty, have reduced economic output, poor health, and little or no access to education. The disparity between the two worlds has been a historical blight on the American system. Power elites, governmental and economic, have frequently been at the heart of perpetuating this contradiction in educational outcomes (Barasa, 2019; Bartley, 1969; Bonastia, 2012; Breidlid, 2010 & 2012; Fresh Air, 2019; People Keep, 2014).

Massive Resistance. The white and southern socioeconomic and sociocultural hierarchy came out strongly against the integration of African American students into schools throughout the south during the U.S. Civil Rights era of the 1950s and 1960s. This resistance provided glaring examples of state interference in education at the expense of African Americans and was a key example of oppressive tactics used by the powerful to maintain submission and docility among its people (Bartley, 1969; Freire, 2017).

Despite emancipation, after the U.S. Civil War, Black people in America lived as 2nd class citizens segregated into separate communities and schools. U.S. public policy, at all levels, federal, state, and local, established specific practices that defined where

people of color could and could not live in every metropolitan area in the country. *Plessy v. Ferguson*, (1896) further segregated the two cultures. Each lived their lives and schooled their children *separately* and theoretically *equally* (Bartley, 1969; Nast et al., 1998; Rothstein, 2017; *U.S. Reports: Plessy v. Ferguson, 163 U.S. 537 (1896)).*

In 1954 the Supreme Court of the United States ordered the integration of the American school system. This ruling "struck directly at the institutionalized framework of the southern social system" (Bartley, 1969, p. vii). White reaction was not measured or tempered. Their *Massive Resistance* to public school integration involved the entire hierarchy of southern cultural, business, and government leadership, each especially vocal against the measure. In Virginia, the state government proposed laws specifically targeting school integration. One called for the abolishment of laws concerning school attendance alleviating the consequences for white children not attending integrated schools. Another allocated grants to families opposed to sending their kids to integrated schools allowing them to attend private, racially separate, institutions. Additionally, local school boards had the power to assign white and African American students to schools chosen by the board, with predictable outcomes. In 1959, Virginia's Prince George County shuttered all its public schools so as not to comply with the Supreme Court's ruling; schools would not reopen for 5 years (Bonastia, 2012). Louisiana lawmakers created 'segregation strategy meetings' with the express purpose of preventing desegregation. The Georgia Education Commission proposed a bill making it a felony for any state or local official to spend funds on an integrated school. At the Federal level, almost 100 members of the U.S. Congress, all from the south, openly defied the U.S. Constitution and signed the *Southern Manifesto* aggressively seeking to combat school

integration. Federal involvement ended the south's more overt resistance to school integration and the enrollment of African Americans in formerly all-white educational institutions. President Eisenhower, in 1958, federalized Arkansas National Guard troops to protect African American students entering newly integrated schools in Little Rock. Troops, vigorous court challenges to M*assive Resistance* legislation, and Federal marshals would be used to continually quell discontent. Prolonged "federal executive action" and its assumption of the "enforcer" role (Edelstein, 1977, p. 305) was necessary to deflate and defeat challenges to school integration and open equal educational opportunities to people of color in the south (Bartley, 1969; Bonastia, 2012; Edelstein, 1977; Luckett, 2016; The Library of Virginia, 2003).

The Contemporary U.S. Picture. The extent of access to education by persons of color is as stark as it was 65 years ago. "More than half of the nation's schoolchildren are in racially concentrated districts" (Meatto, 2019). Segregation is not only determined by race; a person's socioeconomic status is a limiting factor too. "The share of black students attending schools that are more than 90 percent minority has grown in the last twenty years from about 34 percent to about 40 percent" (Rothstein, 2014). The grouping of at-risk learners is not just a phenomenon explicit to the south. Kozol (1991) described the New York City public school system as especially *savage* in its inequalities; stating that the ". . . denial of the means of competition is perhaps the single most consistent outcome of the education offered to poor children in the schools of our large cities" (p. 100). Boston Public Schools have begun to resegregate as well with 84 of 117 being labeled "intensely segregated" (Peter, Center for Education and Civil Rights at Penn State, 2020). In the "Los Angeles Unified School District, more than half of the students

— around 289,000 kids — attend a school that's more than 90 percent black and Latino" (Stokes, 2018). Brown and ". . . black students' racial isolation is now *de facto*, . . . in all metropolitan areas, North and South (Rothstein, 2014).

Texas, where this investigation is located, is no different and ". . . has a long history of neglecting schools tasked with educating students of color" (Fresh Air, 2013). This is especially true in districts with growing Hispanic populations. The National Equity Atlas (2021) reported that Texas is home to four cities, Houston, Dallas, Austin, and Fort Worth, with high segregation rates in schools and communities. Heilig & Holme (2013) asserted that "where students are segregated by race/ethnicity and language [they] are overwhelmingly rated as low performing" (Fresh Air, 2019; Kunz, 2017; UT News, 2013).

A Dichotomy in the System. A final example must be given to augment the dichotomy present in the American system. The U.S. government looks at the projection of democratic ideas as one of the cornerstones of its power around the world. Clinton (2010) described this smart power/soft power as a way for Washington to strengthen and amplify its civilian power abroad. Frequently, government organizations and Non-governmental Organizations (NGOs) build schools in countries that the U.S. wants a better relationship with. In Afghanistan alone, USAID printed more than 170 million textbooks, trained 480,000 teachers, and established 8,440 community-based education programs (Clinton, 2010; USAID, 2019).

The repression of literacy is not a phenomenon localized to the United States. Africa has a long history of the repression of literacy by sociocultural and socioeconomic elites. The subjugation of literacy across national boundaries and across time/history is an important concept examined in this research.

Africa. An extreme amplification of the chaos created by government interaction or government inaction in the education system is Mobutu Sese Seko's Zaire which was called a case study in "central banking as an adjunct of gangsterism" (Berkeley, 2001, p. 113). His model of government used economics as a political instrument, spending huge amounts of money on rewards to allies and the military, and buying off challengers and opponents. "Gross overspending by the presidency was funded in part by gross underspending in education, public health, and other human services" (p. 114). Educational spending for 1986 was 10% of its budgeted amount. Mobutu used utter poverty to create systemic educational disempowerment. This is an example of the elite manipulating state mechanisms to propagate a status quo. Further, in large parts of the African continent access to education is truncated by state government requiring fees to be paid by all but a few prized students. Carr-Hill (2020) remarked that in 76 countries across the region 20% of the richest 25-29-year-olds had completed some form of tertiary education while only 1% of the poorest had. Further, he claimed that the disparity was no better than numbers for the same area 40-50 years ago. Data from a 2011 report asserted that 28.9 million primary-school-age children did not attend school and that only 24% of Africans continue to higher education options (Winthrop, 2011).

Access to education has been used as a tool to defeat challengers and win popular elections by ruling elites throughout Sub-Saharan Africa. Material benefits, including access to schooling, have been offered as an incentive to vote for certain parties or leaders. Freire (2017) called this a false charity generously offering something to the oppressed that should be theirs by right. And that, "False charity constrains the fearful and subdued, the 'rejects of life,' to extend trembling hands" (p. 19). In another example, competition for votes in rural majorities in 27 African countries led to increases in access to primary education. Political parties offered basic goods and services, including schooling to the electorate, in exchange for votes in upcoming elections. However, this uptick in access was valid only in the countryside. Urban centers became neglected, and basic services were provided solely based on a population's ability to provide positive ballot outcomes (Freire, 2017; Harding, 2019; Matsumoto, 2016).

The ability to choose a path forward does not always translate into positive outcomes for the people. In the late 19th and early 20th centuries, the Tuaregs of West Africa waged war against French colonialism and won a modicum of autonomy for their efforts. With autonomy came the rejection of the French education system and its entrepôt into modern administrative and economic practices (Keys, 2012). Ghosh's (2012) article called contemporary Tuareg territory "a poverty-stricken wasteland." The area is currently (2021) dominated by rebels at war with Mali and Islamist militants at war with everybody.

Colonialism. African countries have suffered successive waves of colonialization throughout most of their history. Africa was perennially preyed upon, first by Arabs and Turks followed by Western European nations that sought to control both the resources and people of the continent (Barasa, 2019; McLeod, 2016). Literacy, as a key source of cultural transfer, allowed the dominant culture to provide a model for what success *should* look like. The colonized population was steeped in western intellectual norms asking them to reject their histories. Colonial administrators used education to create new elites that effectively worked within imported western-centric government organizations (Barasa, 2019; Oloruntimenhin, 1974).

State Education Policy Fueling Conflict. Links have been acknowledged between formal schooling by the state and conflict. Literacy is usually seen as a way to engage young people and reduce tensions in society. However, Matsumoto (2016) asserted that education was a relevant factor in many cases of violent unrest in Africa. He contended that "inequality among cultural groups frequently drove conflict" (p. 4). Revisiting the theme that poor educational opportunity creates poor economic potential, he explained that many poorly educated and poverty-stricken youth do not have much to lose when resorting to violence on their path out of poverty.

The state can be complicit in creating an environment conducive to conflict. Some governments are not unable to properly fund their education sectors but choose to see it as "a waste" and contrary to the overarching plan of creating weak institutions and the suppression of the rule of law. Why should elites spend money to create strong organizations that one day may question or combat their rule (Matsumoto, 2016)? The state who controls the narrative controls who the enemy is. The civil war in Sudan was an

example of this. The government's primary education system was based on an Islamist

ideology and not inclusive of the country's other cultural and religious groups. Sudan's

schools have been called "the most successful instruments for the . . . dissemination of

militarism" (Vriens et al., 2003, p. 71) and teachers are "experts at using educational

settings to indoctrinate and control children. (Breidlid, 2010 & 2012).

Freire (2017) affirmed that "oppression is domesticating," (p. 25) and this

normalization of repression lies at the heart of colonial ideologies. "It was the deliberate

strategy of colonizing countries to implement their own education systems in their

colonies" (Petrus, 2019, p. 85). Literacy was used to exert stricter emotional and physical

control over their *subjects*. The elevation of European culture over African culture served

as an indoctrination tool "conditioning these subjects to distance themselves from their

own cultures" (p. 86).

Much like Africa, a resurgent Russia has used its political and economic power to

suppress its former Soviet-era satellites and neighbors (Petrov & Aleynikova, 2020). Its

oppression and disempowerment of at-risk populations to gain an advantage is what

Darder (2018) described as the "coloniality of power" (Location No. 42). Resurgent

Russian expansion has sought to suppress indigenous populations by control of language,

culture, and religion.

Russia. In Vladimir Putin's Russia, a concentrated effort to mold and shape

history to reimagine the national narrative is taking place (Petrov & Aleynikova, 2020).

Government officials hold regular meetings with top performers from the country's

school system. These students are recruited as the right kind of students to participate in

government programs. These young prospects were selected because they met not only

scholastic standards but reflected the image Russia wanted to project to the broader

world. Letterman (2018) argued that Russia craved to re-establish itself as a

consequential world power. This effort, according to a Pew Research Center (2018)

survey has had mixed results. Views of Russia in North America and Europe are poor

with more positivity in Asia and diverse results in Africa.

Putin has endorsed an initiative to create a single official history textbook that

excluded alternate versions of history as well as promoting convergent thinking. Howard

(2019) intimated that Moscow uses the suppression of national languages in schools both

inside of Russia and in their authoritarian satellite states. Further, he noted that in

Belarus, part of the old Soviet Union, control of the school system is employed to foment

Belarusization, the regulating of their national language in education and public

discourse. In Russian occupied Crimea, the International Convention on the Elimination

of All Forms of Racial Discrimination (CERD) reported that no educational instruction

will be conducted in either the Ukrainian or Crimean Tatar languages (Busol, 2020), a

decision Ukraine contested in the International Court of Justice where the court ruled that

Russia must "ensure the availability of education in Ukrainian and enable the functioning

of Crimean Tatar institutions." Russia has historical and modern ties to systematic

repression (Russia, 2012). Here the researcher has reported on multiple examples of

Russian repression as it related to literacy practices; the suppression of indigenous

languages, the promotion of an elite, and state control of the national narrative among

them. Freire & Macrine (2009) admonished that a "political unfeasibility" (p. 179)

existed when attempting to teach a population in any other than their native language.

Further, they asserted that "language has to be a central, an essential concern in any

political struggle" (p. 181). Russia as colonizer "goes to great lengths towards the preservation [of Russia] as a power presence" (p. 180).

In the next section, the investigator chose to examine the politics surrounding education reforms carried out in the mid-19th century Ottoman Empire. This provided a counterpoint to western-centric educational norms. The Ottomans, in this period, used a multiplicity of literacy suppression tools to inculcate members of the empire into their proposed reform movement, among them the suppression of languages in bureaucratic and educational settings.

The Ottoman Empire. The Ottoman Empire was an amalgam of ethnicities, religions, cultures, and hopeful nation-states that coalesced over 600 years of expansion and conquest. It incorporated people as diverse as Turks, Arabs, Persians, Greeks, Jews, Albanians, Bulgarians, Hungarians, Serbs, Slavs, and Croats. Its religious make-up was no less distinct: Muslims, Greek Orthodox and Roman Catholic Christians, Jews, and an array of subsets and offshoots of each. Its borders held the nationalistic aspirations of millions seeking to create their domestic narrative and cultural story apart from Ottoman dominance. In this landscape, the Sultanate sought to tighten its hegemony over a diversity of peoples and cultures through the enactment of a state-sanctioned and directed universal education policy (Evered, 2012; Finkel, 2007).

The Empire underwent an extensive reshuffling of priorities related to literacy beginning in the mid-nineteenth century. With the passing of the Education Act of 1869, the government used its schools as a vehicle for "fostering cohesion and imperial loyalty" (Evered, 2012, p. xiii). Forward-thinking elites sought to produce an education system that reduced political disorder and created a tightly knit community apart from the

chaotic jumble of religions, languages, and ethnicities. It hoped that creating a positive pro-Ottoman narrative would slow decay and dismemberment. This attempt at social engineering called for the creation of centrally controlled schools for children throughout Ottoman territories and ". . . declared [the state's] right to intervene pedagogically in the life of every child within its domain" (p. 5). Education, promoting unity, cohesion, and loyalty to the state, it was believed, would make better subjects. These reforms sped up modernization and, in the 20th, century led to "urbanization, growth of public infrastructure, educational expansion, and literacy" (Hudson, 2011).

Ironically, this attempt at reform, intended to solidify the power of the state also worked to pull it apart. The widespread use of education by the administration to create a universal identity favorable to the government met considerable push-back. This was especially prevalent regarding language. Children received primary school instruction in their mother tongue. Greeks taught Greek, Arabs learned Arabic, Jews were instructed in Hebrew, and so on. Often this cut them off from advancement within the Ottoman state system as all official transactions were conducted in Ottoman Turkish. However, especially gifted students, no matter the ethnic or religious origins, could be selected for private boarding schools for post-primary education, but the curriculum was constructed by the government to promote Ottomanism. (Evered, 2012).

In the non-Turkish and non-Muslim portions of the Empire, the assertion of state control pushed border provinces closer to Ottoman rivals such as Russia, newly created states in the Balkans, or the Austro-Hungarian Empire. Western powers, France, Great Britain, and Russia, called the efforts at uniformity an attempt to universalize Ottoman "intolerance, backwardness, and oppression" (Evered, 2012, p. 30).

Education policy was by no means the only cause of the eventual collapse of the Ottoman Empire, but its focus on control versus self-empowerment and self-determination certainly contributed to its fall (Evered, 2012; Finkel, 2007). State interference in education policy can lead to conflict (Breidlid, 2010 & 2012; Matsumoto, 2016; Vriens et al., 2003). The Ottoman Empire created an environment that caused its multiplicity of ethnic, religious, and nationalistic aspirants to reexamine their motivation to remain attached to what was often felt to be an alien culture. Very often this reexamination led to revolution and civil war (Finkel, 2007).

Critical to this research is the proposition that literacy is dominated by sociocultural and socioeconomic elites. To better explicate the concept that literacy, as a mechanism for the control of positive outcomes by elites, was examined through a historical lens. Instances from the *Massive Resistance* movement in the 1950s U.S., Colonial, and modern Africa, contemporary Russia, and the Ottoman Empire of the late 19th and early 20th centuries were given to expound on disempowerment by state and/or financial elites of marginalized and at-risk populations.

Focus Re-Statement

This research focused on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional abuse, physical and sexual abuse, neglect, homelessness as well as poverty. The investigator sought effects between the participant's trauma and their ability to make progress in a Texas-based non-profit's trauma-informed GED prep program which employed trauma-informed literacy practices such as strong student-teacher relationships and creating *felt safety* in learning spaces to aid learners toward their GED certification. This program focused on non-

traditional and marginalized students who, in the past or while enrolled in the Texas-based non-profit's trauma-informed GED prep program, faced traumatic events. It is here intimated that these factors, exposure to trauma, and what Freire (2017) called the coopting of literacy as an "instrument of oppression" (p. 7) are causally related to truncated outcomes hindering upward mobility and liberation.

This research was grounded in critical literacy theory with a historical lens of disempowerment as the conceptual framework. Its concepts, from luminaries such as Shor, Kincheloe, and Freire, were provided to illustrate the timeless and continuing struggle for empowerment via literacy being waged by the oppressed, not only throughout history but critically and globally in the present.

Chapter Summary

This chapter provided an overview of multiple concepts associated with trauma-informed literacy. Definitions for both trauma and literacy were given. Trauma-informed literacy as a discipline was examined with attention given to its foundation and relationship to more developed concepts in the medical, social work, political, and psychological spheres of knowledge. Trauma-informed practices were analyzed with an emphasis on strong student-teacher relationships and creating *felt safety* in learning spaces among the most prominent. Trauma's effects on learning, such as reduced cognitive capacity, a lack of problem-solving skills, and the dearth of critical thinking abilities, were examined. The next chapter will present an exhaustive review of the literature associated with trauma-informed literacy, trauma's effects on learning, and the trauma-informed literacy practices of seeking to create strong student-teacher relationships and the establishing of *felt safety* in learning spaces.

Definition of Terms

Andragogy or Adult Literacy- Andragogy has been described as the "art and science of helping adults learn" (Knowles, 1988, p. 43). It is learner-centric and the antithesis of pedagogy which focuses on teacher-dominated learning spaces populated by children and adolescents (Bartle, 2019).

At-risk- At-risk is defined "broadly, including but not limited to the poor, frail, disabled, economically disadvantaged, homeless, racial and ethnic minorities, persons with low literacy" (Chin, 2005).

Cognitive Capacity- Cognitive capacity is the total amount of information the brain is capable of retaining at any particular moment and is finite (Bilash, 2009).

Complex Trauma- The continual and prolonged exposure to traumatic events which may include but are not limited to "childhood sexual and physical abuse, emotional abuse and neglect, witnessed family violence, peer assaults, community violence serious illness or injury, and loss or separation from a caretaker or other significant family member" (Lanktree et al., 2012).

Critical Thinking- "Critical thinking is the disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action" (The Foundation for Critical Thinking, 2019).

Disempowerment- For the scope of this research, disempowerment is the concentrated effort by sociocultural and socioeconomic elites to reduce outcomes of at-risk populations and people of color by restricting their access to or quality of literacy.

Efficacy- ". . . the power to produce an effect" (Merriam-Webster, 2020).

Empowerment- ". . . the act or action of empowering someone or something: the granting of the power, right, or authority to perform various acts or duties" (Merriam-Webster, 2020). For the scope of this researcher, empowerment is closely associated with the unfettered ability to attain advancement through educational processes.

Executive Function- Executive function "[is] a set of processes that all have to do with managing oneself and one's resources in order to achieve a goal. It is an umbrella term for the neurologically-based skills involving mental control and self-regulation" (Cooper-Kahn; Dietzel, 2020).

Felt Safety- A trauma-informed classroom needs to be an emotionally safe place as well as physically safe! Safety is an essential component in a trauma-informed classroom. Their brain forms neural connections so that these children can survive the traumatic experiences they are forced to endure (The Trauma-Informed Teacher, 2019).

ged.com- *ged.com* is a Pearson-owned website that is the sole provider of GED certification testing in the U.S.

ged.com pretests- The Pearson site *ged.com* offers a pathway to GED certification. The site has study material and practice tests for individuals needing a better grounding in each of the 4 GED certification areas. The site offers a series of subject matter pretests comprised of a sampling of questions mirroring actual GED exams.

GED Programs- GED programs are, for this research, adult learning programs that assist learners in seeking their General Equivalency Diploma. Often these are persons that have left K-12 education before receiving a high school diploma.

Literacy- "The ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society" (Montoya, 2018, p. 2).

Low Literacy- Low literacy was defined as those lacking "the ability to understand, evaluate, use and engage with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential" (OECD, 2013, p. 61).

Oppression- Oppression is described by McLaren et al. (2009) as the "erasure of students' cultural and subjective formations" (p. 66) and the "pauperization of the working masses" (p. 55).

Social-Emotional Learning (SEL)- 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 responsible decisions (CASEL, 2020).

Trauma- The Substance Abuse and Mental Health Services Administration has defined trauma as being the result of "an event, series of events, or set of circumstances that are experienced by an individual as physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical,

social, emotional, or spiritual well-being (Substance Abuse and Mental Health Services

Administration, 2019). Additionally, Briera and Scott (2015) asserted that trauma

involved emotional, developmental, and social impairments that could occur as a result of

being exposed to an event leaving the individual with a sense of helplessness, feeling that

they were still being in danger, or lacking control of themselves or the situation.

Examples of traumatic events may be actual or threatened death, serious injury, abuse-

emotional, physical and sexual-homelessness, and poverty.

Trauma-informed Practices- Trauma-informed literacy practices vary depending on the

practitioner and the learning space. However, they follow critical templates, among them,

basing a school's culture firmly on understanding and responding to trauma, creating *felt*

safety in all learning spaces, strong professional development in social-emotional

learning (SEL), and dynamic student/teacher relationships (Alisic, 2012; CASEL, 2020;

Soma, 2017; Venet, 2018).

CHAPTER II

Review of Literature

Chapter 1 introduced concepts related to trauma-informed literacy and grounded this research in two interconnected frameworks, that of critical literacy and the observing of literacy oppressed through a historical lens. Each highlights the relationship between socioeconomic, sociocultural, and state-level elites focused on disempowering learners. The concept of trauma-informed literacy was introduced with attention given to practices related to strong student-teacher relationships and the creation of *felt safety* in learning spaces. The conceptual framework established links with this research and critical literacy theorists such as Paulo Freire and Ira Shor whose efforts focused on revealing the hegemonic oppression perpetrated by elites both economically and culturally (Crossman, 2020; Freire & Macedo, 2005; Freire 2017; Giroux, 2014; Macraine, 2009; McLaren & Jaramillo, 2009; Shor & Freire, 1987; Shor & Pari, 1999; Shor, 1999).

This review of literature focuses on relevant research associated with topics linked to trauma-informed literacy. A description of both trauma and complex trauma is provided, along with a detailed exploration of trauma's effects on learning. A comprehensive review will be provided of trauma-informed literacy practices, with emphasis placed on student-teacher relationships and the creation of *felt safety* in learning spaces. Additionally, literature associated with andragogy and general equivalency diplomas (GED) practices in the United States will be explicated as well.

The purpose of this literature review is to uncover research outcomes, practices, or applications related to the overarching purpose of the study. The goal is to critically

analyze literature identifying strengths, weaknesses, and gaps in prior research. The review is driven by the problem statement, found in the next section, and the research question which asks whether a Texas-based non-profit's trauma-informed GED prep program, and its use of trauma-informed literacy practices, had any effect (Cohen's *d*) on the participants *ged.com pretest* scores.

Problem Statement

This investigation focuses on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional, physical, and sexual abuse, neglect, homelessness, and poverty. The investigator analyzed *ged.com pretest* scores (pretest and posttest) for Cohen's *d* effect size in specific *ged.com* subject matter pretests in a Texas-based non-profit's trauma-informed GED prep program. Further evaluation of individual *ged.com pretest* subjects will seek additional effects and/or practical significance via a one-way ANOVA. In this instance, *ged.com pretest* scores were grouped by subject matter, math, reasoning and language arts, science, and social studies for analysis.

The Texas-based non-profit's trauma-informed GED prep program concentrates on non-traditional and marginalized students who may have been exposed to traumatic event(s). Additionally, historical factors were explored related to perennial disenfranchisement influenced by sociocultural and socioeconomic elites as well as state-level discrimination. These examples provided precedent linking the phenomenon of ostracization of student populations with historical and contemporary efforts to circumscribe positive educational outcomes. This discrimination and the participant's state of being, such as living in poverty, homelessness, or being a victim of abuse, before

enrollment in the Texas-based non-profit's trauma-informed GED prep program is traumatic in extent. This investigation seeks to quantitatively measure the effect size (Cohen's *d*) of two trauma-informed literacy practices, strong student-teacher relationships, and the creation of *felt safety* in learning spaces, on the *ged.com pretest* scores of these marginalized students. Further evaluation of individual *ged.com pretest* subjects will seek additional effects and/or practical significance via a one-way ANOVA. In this instance, *ged.com pretest* scores were grouped by subject matter, math, reasoning and language arts, science, and social studies for analysis.

It is intimated that these factors, exposure to trauma, and what Freire (2017) in his *Pedagogy of the Oppressed*, termed the coopting of literacy as an "instrument of oppression" (p. 7) are causally related to abbreviated outcomes hindering upward mobility and liberation.

What is Trauma?

This research is focused on trauma and complex trauma and its effects on learners in a Texas-based non-profit's trauma-informed GED prep program seeking to move through a diversity of classroom environments towards educational empowerment. The Substance Abuse and Mental Health Administration (SAMHSA) (2019) described trauma as ". . . an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (p. 1). Additionally, "stress occurs when the burdens imposed on people by events or pressures in their lives exceed their resources to cope" (Adkins, 1999, p. 2). "Trauma is a word that may be used to describe a number of pathological or

psychological conditions" (Carley & Driscoll, 2001, p. 47) and is pervasive in learning environments across the United States. Many severe traumas are common for children in high-risk communities where the prevalence and strength of stressful life events are higher for low socioeconomic children (Freed, 2012; Jensen, 2013; Lanktree et al., 2012). Complex trauma is the continual and prolonged exposure to traumatic events which may include but is not limited to "childhood sexual and physical abuse, emotional abuse and neglect, witnessed family violence, peer assaults, community violence, serious illness or injury, and loss or separation from a caretaker or other significant family member" (p. 814). Further, an important subset of violence/trauma defined as *urban* is identified as,

> "a complex spectrum of experiences with which a society is in constant contact as part of daily living, such as homicide, assault, intimate partner violence, aggression, sexual abuse in infancy and adolescence, forced prostitution, early use and abuse of alcohol and drugs, drug trafficking, and kidnapping. (Flaks, et. al., 2014, p. 33).

Sitler (2008) characterized trauma as "an affliction of the powerless" in which the victim is rendered helpless by overwhelming forces and that traumatic events overwhelm the ordinary systems of care that give people a sense of control, connection, and meaning" (p. 119).

Traumatic experiences are amplified by negative environments, lack of community support, including home life, or poverty (Charuvastra & Cloitre, 2008). Research conducted by the American Psychiatric Association (2000) indicated that trauma exposure can mimic the symptoms of Post-Traumatic Stress Disorder (PTSD). These symptoms can include "low self-esteem; helplessness or hopelessness;

dissociation; impulsivity; self-injurious or self-endangering behavior; substance abuse; and various difficulties involving problems with identity of self-functioning, affect regulation, and capacity to form positive relationships" (Lanktree et al., 2012, p. 815). (van der Kolk, 2005).

The Center for Disease Control (2020) reported that 61% of all surveyed adults reported exposure to adverse childhood experiences. Lanktree, et al. (2012) registered exposure to a traumatic event as high as 80%. "In 2004 alone, an estimated three million official reports of child abuse or neglect were made to government child protection agencies; around 872,000 of these cases were confirmed" (Perry & Szalavitz, 2017, p. xxv). Persons facing adverse childhood experiences (ACE) such as abuse-physical, emotional, and sexual, neglect, toxic-stress, poverty, homelessness, and foster care, are highly susceptible to a raft of issues, among them difficulty with relationships, financial troubles, cyclic work history, depression, and limited educational opportunities (CDC, 2020). Additionally, ". . . purely "physical" problems like heart disease, obesity, and cancer can be more likely to affect traumatized children later in their lives" (Perry & Szalavitz, 2017, p. xxvi). Further, "75 million children have their education disrupted each year due to disaster and conflict" (Maya Vakfi, 2019, p. 5).

A person's reaction to trauma can interfere with brain development, learning, and behavior all of which have a potential impact on a person's academic success as well as the overall school environment. By understanding and responding to trauma, teachers, and staff can help reduce its negative impact, support critical learning, and create a more positive learning environment (Clemens et al., 2017; DePedro, 2011; Flaks et al., 2014;

Franklin & Streeter, 1995; Medley et al., 2017; Powell, 2018). Developing knowledge of

trauma's effects on learning is a key research goal.

Data Collection

The goal of this literature review is to collect an exhaustive set of relevant articles

directly or obliquely related to the research subject. The following steps were suggested

by Boote & Beile (2005), Combs (2017), and Durham (2012):

1. The investigator begins with an electronic search of academic databases and prominent journals.

2. All records are kept with the date of each search, the databases searched, the keywords and keyword combinations used, and the number of records resulting in each search.

3. All search results are stored in an Excel spreadsheet.

4. Searching within references of academic articles collected for relevant pieces.

5. These steps are repeated until a saturation point is met.

6. A master reference list is created

7. A more detailed reading is executed to separate the more relevant articles from those that are weaker.

Limitations

It is possible that other articles related to trauma-informed literacy are available

for review, possibly from a deeper dive into educational journals, however, the sampling

present in this review covers a wide range of not only participants and geographic

locations but encompass a plethora of disciplines. It was noted that results were returned

from journals and books from multiple non-literacy disciplines, including mental health,

social work, psychology, and political science. A more esoteric finding may provide

insight into recent trauma-informed literacy approaches to education. This diverse sampling serves the purpose of exhaustively reviewing the topic.

 Organization of Literature Review. The review of literature is organized into 4 mains sections, each interconnected within the field of *trauma-informed literacy*. Section 1, T*rauma-Informed Literacy*, for this research, is defined as a system-level (schools, organizations, or entire learning environment) intervention. Section 1 has 2 subsections; *Other Genres* which informs on the topic through output not directly related to scholastic or research-based outcomes, these can include books, blogs, government proceedings, webpages, and magazine articles, and *Schools as a Source of Trauma*. Section 2, *Trauma's Effects on Learning*, evaluates research associated with learners who have faced traumatic events abbreviating their ability to empower themselves socioeconomically or socioculturally via literacy. Section 3, *Trauma-Informed Literacy Practices*, focuses on *Student-Teacher Relationships* and *Creating Felt Safety in Learning Spaces*, it also briefly references *Maslow's Hierarchy of Needs*. Finally, in Section 4 the researcher will review the literature associated with both A*ndragogy* and *GED Prep Programs*. Each section will better ground the topic by providing a synthesis of the research connected to each.

 Each section is organized to provide an(a):

1. Overview of the search results.
2. Presentation of research based on methodology.
3. Synthesis of research found for the topic.

The next sections will provide a synthesis of key findings associated with an amalgam of research methodologies: systematic reviews, qualitative, quantitative, meta-analysis, and mixed-methods research.

Trauma-Informed Literacy

"Generally, there just was really not an understanding of how trauma impacts a child"

(Falk & Troeh, 2017)

Search Results

For this section of the literature review, trauma-informed literacy will be examined as a system (schools, organizations, or entire learning environment) level intervention. "Trauma-informed approaches include programs, organizations, or systems that realize the impact of trauma, recognize the symptoms of trauma, respond by integrating knowledge about trauma policies and practices, and seeks to reduce traumatization" (Maynard et al., 2019, p. 1). Trauma-informed literacy is a relatively new phenomenon with learning space applications only a few decades old. A search for "trauma-informed literacy" via JSTOR, on September 20, 2020, returned zero results. Additional searches were performed with keywords such as "trauma-informed classrooms," (3 results) or "trauma's effects on learning," (zero results) and "trauma-informed education," (3 results). A search of the same terms in Educational Resource Information Clearinghouse (ERIC) returned 1 result for "trauma-informed literacy", 345 for "trauma-informed classrooms," 3 for "trauma's effects on learning," and 7 for "trauma-informed education." A review of the flagship journal, *Literacy Research and Instruction* returned zero results for "trauma-informed literacy" and only three when

screening for the word "trauma." A final search was performed in the *Journal of Educational Research* returned zero results for "trauma-informed literacy" and sixteen entries when trauma alone was investigated. During the review of literature for this investigation, this researcher retrieved a transcript from a 1997 hearing in the U.S. House of Representatives titled *Literacy: Why Children Can't Read; A Review of Current Federal Programs; Teachers: The Key to Helping America Learn to Read*. The text was searchable and when "trauma-informed education" and "trauma" were sought there were zero and one result returned, respectively. This was 23 years ago and trauma and its effects on learning or trauma-informed literacy practices had not entered the lexicon associated with how to educate Americans (United States Congress, 1999).

Trauma-informed care in non-literacy fields such as medicine, psychology, and social work, coalesced only 30 years ago (Wilson et al., 2013). However,

> "In the last ten years awareness of the importance of developmental trauma and "adverse childhood experiences" in mental, physical, and even societal health has spread . . . from a relatively small group of clinicians and researchers into public systems and to the lay public. Public and private systems in education, child welfare, heath, [sic] mental health, juvenile justice, and more are implementing "trauma-informed," "trauma-aware," "trauma-focused," and "ACE aware" initiatives" (Perry & Szalavitz, 2017, pp. xvi-xvii).

Trauma-informed literacy is closely related to the broader field of trauma-informed education with origins in both the medical profession and the judicial system (McInerney & McKlindon, 2014). Scholarship has frequently discussed trauma's effects on the physiological or psychological well-being of a person and extrapolated those

effects onto students in learning spaces (Child Welfare Information Gateway, 2015;

Cunningham, 2004; Hambrick et al., 2019).

Trauma-Informed Literacy: Other Genres

Trauma-informed literacy and its attendant output; journal articles, books, and

Internet contributions are rife with titles that have the words "how-to," "strategies"

(Trauma-informed Teacher, 2019, March & 2019, July) and "things you need to know"

(WeAreTeachers, 2020) as well as "a glimpse inside" (Schwartz, 2018), "observations"

(Phifer & Hull, 2016), and finally "what if" (Downey, 2018). Literature specific to

qualitative or quantitative research is scant in trauma-informed literacy education.

However, there is a thriving and prolific genre of professional and semi-professional

writing associated with the subject. *Sesame Street*, the beloved children's program has

created programming and workshops that have discussed trauma-informed education

(Beck, 2019). They have created foster-care resources such as interactive storybooks and

printable activities, as well as videos featuring Muppets. The show has also used

developmental psychologists for kid's shows such as *Mister Rogers' Neighborhood*,

Blues Clues, and the influential *Sesame Street.* Webpages, such as National Public

Radio's (NPR) *Mindshift* frequently post trauma-informed articles associated with a

diversity of topics among them *How Making Music Can Help Students Cope with*

Trauma (Fraga, 2019) & *Playing Teen Sports May Protect from Some Damages of*

Childhood Trauma (Neilson, 2019). Each article focused on a particular trauma-informed

practice and highlighted the diversity of interventions that might be applied to helping

learners overcome barriers erected by traumatic experiences. Another website dedicated

to the resolution of trauma-related issues is *STARR Commonwealth* an organization that

"offers community-based programs, educational and behavioral health services, and professional training and coaching to heal trauma and build resilience in all children, adolescents, and the professionals that serve them" (STARR Commonwealth, 2020). The site produces informational articles, one such article *10 Steps Every Educator Needs to Know to Create a Trauma-Informed School* ". . . create[d] a blueprint for trauma-informed school implementation and success" (Soma, 2017). The trauma-informed literacy book market is extensive as well. Authors possessing academic credentials have turned to the less restrictive, albeit less research-based, method of book publication to add to the trauma-informed compendium. Dutro's (2019) book *The Vulnerable Heart of Literacy*, utilized her experience as both a classroom teacher and a university-based researcher to illuminate questions such as: "What does trauma mean for literacy classrooms?" (pp. 1-14). Critical to this investigation she asserted that ". . . there isn't consensus about the term "trauma" and what it does and should mean to children's experiences in classrooms" (p. 4). Additionally, and related to this research is work by Jensen (2009 & 2013) whose efforts target students affected by poverty. He wrote in *Engaging Students with Poverty in Mind* that ". . . engagement is especially important for low-socio-economic-status (SES) students" (p. 2) and that ". . . the frequency and intensity of both stressful life events and daily hassles are greater among low-SES children" (p. 17).

Schools as a Source of Trauma

Despite the current positive discussion surrounding trauma-informed education, learning spaces may be an under-recognized source of trauma among students. Gaffney (2019) asserted that ". . . childhood trauma resulting specifically from racism,

homophobia or other systemic injustices [are not] articulated" when common forms of adverse childhood experiences (ACE) are codified. Additionally, that "the majority of schools . . . [are not applying trauma-informed education] in a way that considers structural racism or hetero-sexism, [or] transphobia." She declared that "students who are experiencing trauma can be retraumatized through poorly chosen readings, activities, and assignments."

Gorski (2020) echoed this sentiment quoting a trauma-affected student who was openly transgender, "Here is what I know, by a huge margin, the most adverse experiences in my life happen here. My biggest source of trauma is how I'm treated at this school" (p. 14). The student explained that she faced "unrelenting transphobic and racist bullying, teachers refusing to use her preferred pronouns or her name, her absolute invisibility in health [classes] and other curricula" (p. 14). Despite trauma-informed literacy's advances in learning spaces globally, "treating individual trauma without naming systemic injustice means schools don't just risk leaving some traumas unrecognized; it means they risk retraumatizing students" (Gaffney, 2019).

To provide a more scholastic grounding of trauma-informed literacy, a synthesis of results-driven research will be investigated next. Additionally, the investigator will establish the efficacy of current research and discuss gaps this study seeks to fill.

Research Associated with Trauma-Informed Literacy

Research-centric data indicating the success or failure of trauma-informed practices in a literacy setting are not widespread in the literature. This is especially acute in andrological learning spaces. The dearth of peer-reviewed research surrounding

trauma-informed literacy and its concomitant practices highlights the efficacy of the current research; research that fills a critical gap in scholarship associated with adult learners, in a Texas-based non-profit's trauma-informed GED prep program, that have taken part in its trauma-informed literacy interventions. If this investigation's results are positive, it may provide a trauma-informed program template for educators working with at-risk populations. If the results do not sufficiently support the research's premise and inform that trauma-informed literacy practices do not correlate to positive growth in adult GED learning spaces, future researchers may be able to adjust their modalities and seek more positive results. However, a body of work does exist, while not always exclusive to adult learners, providing insight into the emerging field of trauma-informed literacy (Adkins, 1999; Anderson, 2019; Backman et al., 2012; Brok et al., 2004; Brunzell et al., 2016a, 2016b; Charuvastra & Cloitre, 2008; & Downey, 2018).

The next sections will provide a synthesis of key findings associated with an amalgam of research methodologies: systematic reviews, qualitative, quantitative, and meta-analysis research.

Systematic Reviews: Trauma-Informed Literacy as a Systems-Level Intervention

System-level trauma-informed literacy interventions are becoming more understood as necessary components of a school or organization's response to their trauma-affected learners. However, the ubiquity of trauma-informed interventions belies the struggle with assessing their efficacy. A call for more research associated with system-level outcomes is necessary to advance the field (Berger, 2019; Franklin & Streeter, 1995; Maynard et al., 2019; Powell, 2018).

Berger (2019) declared that "the relationship between trauma exposure and impaired school-related functioning, . . . is well established" (p. 650). Further, she asserted that the relationship between trauma and "lower academic achievement and test scores, lower IQ scores, and impaired working memory, and delayed language and vocabulary" (p. 650) existed as well. However, her systematic review of trauma-informed care in schools found little evidence of a sustained evaluation of trauma-informed programs and discovered "limited and no systematic review" (p. 650) of evidence created by these programs. Berger's review of trauma-informed programs was based on a review of 13 published and unpublished studies. "Many additional studies were excluded from [the] review because of a lack of specific evaluation of screening processes with students" (p. 653). However, the studies reported, "positive improvements in student academic achievement and behavior" (p. 653). The success of Berger's assessment is the prediction that further analysis of trauma-informed programs measuring the effects of trauma on students "provide guidance for integration of . . . trauma approaches into existing school . . . frameworks" (p. 661).

This review is crucial to the current research as it affirms an established hypothesis; that trauma can be harmful to educational outcomes and is correlated to poor academic achievement. However, it illustrates the dearth of scientific review of program-level interventions that have been submitted to peer-reviewed evaluation.

Maynard et al. (2019) in a review of trauma-informed programs asserted that little is known about the benefits, costs, and how trauma-informed approaches are being defined and evaluated (p. 2). Their search criteria rigorously sought to examine only quasi-experimental investigations, that took place in a K-12 school setting, had a defined

trauma-informed approach, measured student-level outcomes, and were not limited in their geographic scope. Seven thousand one hundred and seventy-three viable titles were initially reviewed with "no studies [meeting the] criteria for inclusion in [the] review" (p. 3). This scarcity of reviewable, research-based, programs to examine is existent in the current endeavor as well. However, the review provided significant insight into the potential for trauma-informed programs. The authors argued that it was

> ". . . unclear as to whether the promise of this framework [trauma-informed instruction] is actually delivering the types of systemic and programmatic changes intended, and if those changes are resulting in the outcomes the proponents of a trauma-informed approach in schools hoped for" (p. 3).

Qualitative Research Methods

Creating the proper learning environment is an important component of trauma-informed literacy. Often, that environment must be flexible. The decision calling for flexibility is decided upon at the organizational or system level. Teacher input is crucial to crafting the correct tone and aids in supporting strong student-teacher relationships. That relationship can help an educator better recognize and troubleshoot traumatic associations in their space. Additionally, student voices are essential to crafting proper trauma-informed responses (Alisic, 2012; Anderson & Connors, 2020; Black et al., 2010; Brunzell et al., 2016a, 2016b; Jones, 2012; Phifer and Hull, 2016; West et al., 2014).

Brunzell et al. (2016a) examined the effects of trauma-informed teaching approaches, especially those focusing on flexible learning settings. They contended that ". . . flexible learning settings . . . can help meet the complex needs of students who have

experienced violence, abuse, or neglect" (p. 218). Their research qualitatively (qualitative appreciative inquiry action research methodology) assessed the work of 9 teachers working in "trauma-affected flexible learning settings" (p. 218) and posited that flexible learning environments were rife with the negative ". . . impacts of childhood trauma on students and the subsequent impact on successful learning and classroom engagement" (p. 219). The authors advocated for a Trauma-Informed-Positive-Education (TIPE) approach which promotes "learning within a dual-continuum model of mental health . . . and growth in trauma-affected students" (p. 219).

The study comprised 9 classroom teachers posted to a large school's (1,900 students) *flexible learning unit*, where the students (12-17 years of age) were trauma-affected. The flexible and TIPE informed classrooms implemented a 13-week intervention focusing on rhythm, self-regulation, de-escalation, and mindfulness. The application of trauma-informed literacy practices in a flexible and low-stress environment as in Brunzell's study is also a vital component of this researcher's assessment of adult learning in trauma-affected GED prep participants.

Alisic's (2012) qualitative study of 21 elementary teachers (5 men and 16 women), aged 22-55 years old, with between 0.5 and 30 years of teaching experience, sought perspective to aid school psychologists who worked with children who were "exposed to extreme stressors" (p. 51). A key trauma-informed literacy practice was acknowledged as pertinent. A strong student-teacher relationship was reported to "successfully reduce children's psychological reactions to trauma" (p. 52). In semi-structured interviews, the purposively sampled teachers were asked questions associated with their experiences working with trauma-effected students. Results from the

investigation were mixed. Some teachers contended they felt confident when working with trauma-effected students due to the "supportive atmosphere of the school" (p. 54). However, many doubted whether they were "providing optimal support for their students" (p. 54). Additionally, some teachers felt the line between teacher and counselor was blurred indicating that they felt "teaching was moving away from teaching children academic skills towards playing a major role in children's social and emotional development" (p. 54). The main conclusion ". . . that teachers struggled with providing support to children after traumatic exposure" (p. 57) was partnered with the struggle to find an identity in the process. Finally, the "emotional burden of the work" (p. 57) was remarked upon as well. "Where do we need to put the boundary between the tasks of the teacher and those of the mental health care provider" (p. 57)?

Jones' (2012) qualitative inquiry into African American women affected by trauma speculated that instructors ". . . need[ed] to be conscious of the emotional health concerns in adult education classroom" (p. xi). Her investigation centered on a reading discussion group populated with women of color. She sought to "promote awareness and healing from trauma for African American female adult literacy students" (p. 30). The investigation sought to better inform on questions related to literacy and its connection to trauma. The author focused the inquiry on African American adult women (7 ultimately started the program), with the average age being 46.9 years, with reading level skills between 1st and 6th grade. It was noted that there existed a relationship between trauma, literacy, and critical literacy. Critical literacy in this instance is related to sociopolitical issues such as racism, sexism, and classism (p. 33). Results from the research were constructive. Prominent was the supposition regarding the ". . . importance of

instructors/facilitators who were sensitive to learners' emotional concerns and open to creating an educational space that supports connections among students" (p. 122). Additionally, she argued for "responsive classroom interactions" (p. 122), insinuating that viewing adult learning through the lens of trauma can "change the way adult learners, especially those who are most vulnerable, interface with larger systems" (p. 122). Finally, Jones advocated for a ". . . more explicit embrace of adult literacy as a social justice issue" (p. 123).

Anderson & Connors (2020) examined post-secondary adult daughters of abused mothers seeking post-secondary schooling. She posited that education supplied meaning to the daughters' earlier suffering and helped them "distance" themselves from childhood trauma and that literacy provided ". . . transformational learning opportunities that may assist students to recognize their abilities to learn and grow from negative life events" (p. 327). The study involved 38 females taking part in post-secondary education. Each had been exposed to trauma during childhood, in this instance, abuse to their mothers. "College students with witnessing histories have greater difficulty with relationships and socialization than nonexposed peers" (p. 329). An analysis of the interviews provided insight into the motivation of the women to pursue higher educational opportunities; specifically, ". . . transforming childhood adversity into adult academic achievement" (p. 334). For many, the suffering drove their ". . . desire to distance oneself from their childhood trauma" (p. 334). And, finding "meaning in suffering" (p. 335). Critical to the success of the participants may have been the "significant interaction" (p. 337) between students and faculty or possibly viewing classrooms as being places promoting key thinking and learning skills. The juxtaposition of discussions around trauma and its

effects and the later acquisition of literacy skills is paramount to the larger discussion surrounding trauma-informed literacy.

In their investigation, Phifer and Hull (2016) commented that "schools are recognizing the impact of trauma and beginning to adopt trauma-informed practices" and in doing so are "better equipped to provide the educational and socio-emotional supports necessary to help students reach their potential" (p. 201). Their article stated that "a trauma-informed approach means creating shifts of thought at the organizational level" (p. 202). The research used 3 individual case studies to "illustrate how a trauma-informed system can lead to significant improvement for individual students and the entire system" (p. 203). The qualitative nature of their methodology allowed for the emergence of specific voices related directly to their underlying premise that trauma-informed literacy and their associated practices are necessary.

Trauma-informed literacy has applications in a wide range of classroom settings, including non-traditional learning spaces. West et al. (2014) qualitatively examined 39 female students, ages 14-18, who were court-involved, and battled with externalizing behaviors, either personally or as a witness, in the classroom (p. 58). The authors used a phenomenological research model to "examine student perspectives of educational well-being" and "adresse[d] the absence of voice [for] court-involved students living in residential care" (p. 59). Focus groups were used to collect data and the transcripts were subjected to "constant comparison methods which looked for commonalities, differences, and main ideas" (p. 61). A total of 16 behaviors, 23 likely causes, and 20 recommendations were identified. The behaviors included anger, frustration, irritability, stress, and pressure. All common trauma-related triggers for poor performance in the

classroom. Probable causes of trauma included "aggressive actions in the classroom/on school grounds, . . . verbal fights, aggressive posturing, and demonstrating an inclination towards violence" (p. 61). One emphasized recommendation, which mirrored this investigation's premise, was "that teaching personnel need to improve their management of student behavior in order to enhance engagement of student learning" (p. 62). Finally, the student's informed that "a school['s] trauma-informed setting" acted as a "support for them" (p. 62).

The next section will provide a summation of the previously reviewed qualitative research method articles and their relationship to the current research project.

Summation of Trauma-Informed Literacy Qualitative Research Methods.
Trauma-informed literacy as a system-level response to trauma-created barriers to literacy is an emerging research field. This review of the literature associated with qualitative research methods examined this phenomenon in depth. A review related to the field, described here as *other genres*, provided insight into the wealth of information, books, articles, magazines, websites, and trauma-informed organizations, available to both researchers and learning space practitioners but amplified the dearth of research-based analysis. This communicates the necessity of the current research project.

Qualitative research synthesized for this review includes Berger (2019); Phifer & Hull (2016) and Maynard et al. (2019) who reviewed trauma-informed literacy programs at the school or organization level. Each discussed the necessity of further research but also informed on the prevalence of trauma-informed literacy interventions in learning spaces but lamented that many of these were not set up with evaluation mechanisms in place. The use of trauma-informed positive education (TIPE) in flexible learning

environments was analyzed by Brunzell et al., (2016a). This research is particularly important to the current study as flexible environments mimic the instructional model the Texas-based non-profit uses for its trauma-informed GED prep program's students. Alisic (2012) focused on the teachers' role in facilitating growth as well as the reduction of the psychological effects of trauma. Additional topics included, the role of reading discussion groups promoting awareness and healing for adult African American women, women in post-secondary schooling that had previously lived-in families where trauma was ubiquitous and detailed their desire to succeed in college despite their ancillary exposure to ACE, and court-involved students inhabiting non-traditional learning spaces. (Anderson & Connors, 2020; Jones, 2012; West et al., 2014).

The overall message from the research in this section was that teachers, volunteers, and administrators with a broad understanding of key trauma-informed practices such as strong student-teacher relationships and creating *felt safety* in learning spaces should expect several positive outcomes in students and their broader learning community. Trauma-informed literacy's foundations are built on these universally accepted tenants. Each of the previous synthesized qualitative investigations provided clear links to these practices. Strong student-teacher relationships were centerpieces to the investigations conducted by Alisic (2012), Jones (2012), and Anderson and Connors (2020). Brunzell et al. (2016a) focused energy on discussions related to flexible classroom environments and trauma-informed-positive-education interventions. Each resolutely promoted the relationship between the literature and this investigation's research premise. Jones' (2012) study presented data calling for ". . . creating an educational space that supports classroom interactions" (p. 122). Anderson and Connors

(2020) agreed. Phifer and Hull (2016) went further advocating for trauma-informed spaces that become systemic and school-wide.

An unspoken and often overlooked theme of trauma-informed literacy research is the giving of voice to the previously voiceless. West et al., (2014) looked for that voice in their investigation recording "student perspectives" (p. 59). That voice, though not recorded in this investigation, may prove to be critical in future trauma-informed research. Stein & Mankowski (2004) intimated that ". . . qualitative research serves to reveal or amplify the voices of the participants" (p. 21). The above research allowed the examined populations to *speak* about their experiences. The next sections will provide a synthesis of key findings associated with a fusion of research methodologies: qualitative, quantitative, systematic reviews, and mixed methods research.

Quantitative Research Methods

Poverty is a marker for trauma and high stress in learners of all ages. Program level trauma-informed interventions are being investigated in a multiplicity of settings and encapsulate a variety of learning populations, including poverty-affected in Scotland, terror-involved students in Israel, and tsunami survivors in Sri Lanka (Berger & Gelkopf, 2009; Berger et al., 2007; Taylor & Baker, 2018). Quantitative research, regarding trauma-informed literacy, specific to classroom settings as well as at the program level, is sparse. Research performed in Scotland by Taylor and Barrett (2018) explored the relationship between using a trauma-informed approach to learning and the ". . . closing [of] the poverty-related attainment gap" (p. 64). Their mixed-methods investigation focused on 2 classrooms of 4.5 to 5.5-year-old children living in "areas of high socio-economic deprivation" (p. 64). The findings were encouraging and "indicated that the

pupils made significant gains in their executive function abilities" (p. 64). (see also

Caputo, 2005; Carr-Hill, 2020; Child Welfare Information Gateway, 2015; Darder, 2018;

Emdin, 2016; Freire, 2017; Jensen, 2009 & 2013).

Berger et al. (2007) examined school-based interventions seeking to affect

outcomes in elementary school-age populations touched by terror-related distress in

Israel. "Israeli society has been exposed to an unprecedented wave of terrorism" with at

least "45% of the population [having been] exposed to a terrorist attack" (p. 541).

Children exposed to war or terrorism frequently exhibit "PTSD, depression, anxiety,

regressive behaviors, . . . and learning difficulties" (p. 541). Their research took place in a

public elementary school and the intervention was introduced into the school's

curriculum. One hundred and forty-two students took part in an eight-session structured

program titled *Overshadowing the Threat of Terrorism*. The researchers ". . . stressed the

potential of the program in alleviating students' distress and in improving their academic

functioning" (p. 543). The treatment incorporated "meditative practices, bio-energy

exercises, art therapy, and narrative techniques for reprocessing traumatic experiences"

(pp. 545-546). A questionnaire was used to measure "objective and subjective exposure

to terrorism, PTSD, functional impairment, and separation anxiety" (p. 544) on a Likert

scale. All data were analyzed in SPSS. The investigators asserted that the ". . . study

illustrates the efficacy of a universal-based intervention geared at reducing PTSD

symptoms in children exposed to ongoing terrorism" (p. 548). Learners who took part in

the program "reported significant reductions on all measures of PTSD symptomatology"

(p. 549).

Berger and Gelkopf (2009) examined the effects of school-based interventions on tsunami survivors in Sri Lanka. "[S]ignificant mental health problems" (p. 364) exist in children who have faced major disasters. It was their intimation that "school-based universal interventions have shown promise in alleviating distress and posttraumatic symptomatology in children and adolescents" (p. 364). In a "quasi-randomized controlled trial of 166 elementary school students (ages 9-15)" (p. 364) they investigated the effects of a 12-session structured intervention titled *ERASE Stress Sri Lanka*. The results were positive with a ". . . significant reduction on all variables" and "no new cases of PTSD observed" (p. 364). Additionally, there is a ". . . growing body of evidence suggesting the efficacy of school-based universal approaches in helping children touched by war, terror and disaster" (p. 364).

These projects, Berger et al. (2007) and Berger and Gelkopf (2009) discussed the necessity of system-level interventions when combating community-size traumatic events. The current research speaks to trauma on this scale. The participants are subjected to poverty, socioeconomic and sociocultural disenfranchisement that is as pervasive and as destructive as terrorism and natural disasters due to the level of disengagement as well as its psychological and physiological effects. Learning space interventions are critical to aiding teachers, schools, and communities move past these types of traumatic events.

Meta-Analysis

System-level research of school-based interventions has been conducted via meta-analysis with investigations reviewed here of PTSD-affected students in multiple countries, students who have encountered complex trauma as sustained witnesses to

violence, and Social-Emotional Learning (SEL) in youth development programs (Brunzell et al., 2016b; Rolfnes & Idsoe, 2011; Taylor et al., 2017).

Rolfsnes and Idsoe (2011) conducted a meta-analysis of 19 studies from 9 different countries investigating school-based interventions working to reduce the symptoms of PTSD. "The overall effect size for the 19 studies was $d = 0.68$ (SD $= 0.41$), indicating a medium-large effect in relation to reducing symptoms of PTSD" (p. 155). The researchers, much like the current review of literature, searched ". . . academic databases, Web sites, as well as reference lists from relevant articles and books" to "identify potential studies" (p. 156), found that while there were multiple experiments focused on learners who had experienced trauma, "reviews focusing on school-based interventions [were] virtually nonexistent" (p. 155).

Brunzell et al. (2016b) in their quantitative meta-analysis explored the relationship between trauma-informed education and ". . . students who have experienced complex trauma resulting from abuse, neglect, violence, or being a witness to violence" (p. 63). Their research, and its review of 76 previously published trauma-informed education research studies, complemented the investigator's current research with trauma-affected adult literacy learners. Their paper was presented in support of a ". . . strengths-based trauma-informed positive education approach (TIPE)" (p. 63). Their review of the literature looked for ". . . extant areas of focus within trauma-informed education" (p. 65). The "major theme of trauma-informed learning was on *repairing* trauma-affected students" (p. 66) with subthemes associated with mending regulatory abilities and "repairing disrupted attachment capacities through the formation of strong student-teacher relationships" (p. 66).

Taylor et al. (2017) evaluated 82 school-based social and emotional learning interventions (SEL) and positive youth development (PYD) programs. "The main purpose of PYD is to set young people on a positive developmental trajectory" (p. 1,166). Participant numbers were as high as 97,406 and grades ranged from kindergarten to high school. The mean student age was 11.09. Over 40% were classified as being of low socioeconomic status (a marker of trauma), and 45.9 were people of color (identified for this research as at-risk for truncated outcomes due to both sociocultural and socioeconomic elites' influences). Important results included the finding that "students in school-based SEL interventions continued to demonstrate significant, positive benefits" (pp. 1,164-1,165). Two, that SEL interventions factored ". . . significantly [in] improving skills, positive attitudes, prosocial behavior, and academic performance" (p. 1166). Three, that SEL and PYD interventions applied to ". . . student populations from different racial groups and socioeconomic statuses, and for both domestic and international student bodies" (p. 1,166). Four, "significant improvement in students' long-term adjustment" (p. 1,166). Finally, and perhaps most encouraging, was ". . . increasing graduation rates and college attendance, and reducing later negative outcomes such as arrests or the presence of clinical disorders" (p. 1,166).

Summation of Quantitative and Meta-Analysis Research Methods

Quantitative research associated with trauma-informed literacy programs that represent system-level (either school or organization-level interventions) is virtually non-existent. Interventions provided to learners at the program level are represented in the literature but often the evaluation is not statistically evaluated. For this review, the investigator appraised quantitative research associated with a variety of trauma-informed

literacy topics, among them, an international study of trauma-informed literacy practices seeking to reduce symptoms of PTSD (Rolfsnes and Idsoe, 2011), another investigating positive education via a systematic review (Brunzell et al., 2016b), and a review of a sizable *Positive Youth Development* study in the United States (Taylor et al., 2017). Additional research centered on young schoolchildren in Scotland facing trauma-related barriers due to "socio-economic deprivation" (Taylor & Barrett, 2018, p. 64). Each analysis emphasized how trauma-informed literacy practices are being widely enacted on a global scale, yet not extensively researched to date. This review of the literature linked with trauma-informed literacy, as a system-level intervention, has further engendered the need for the current research project.

Each of the reviewed investigations associated with trauma-informed literacy, as a system-level intervention, has provided insight into the complexity, distribution of, and omnipresence of trauma-affected students and their organization's subsequent attempts to mitigate those effects via positive intervention. There are many similarities between the reviewed populations; persons living in poverty, those who have been witness to violence, students that have been chronically abused, (sexually, physically, and emotionally), and those facing homelessness or natural disasters. They mirror the population of trauma-affected learners in the Texas-based non-profit's trauma-informed GED prep program of this current research. Trauma and its effects are rampant in sociocultural and socioeconomically disadvantaged populations, and their effect on learning is universal and does not discriminate, as has been shown in this review, based on age, sex, or geography.

Attempts to work with struggling (trauma-affected) learners often end when they exit K-12 learning or a concomitant youth-based education system. Adults are usually left to their own devices and frequently struggle to fit into existing higher-education models. The Texas-based non-profit's trauma-informed GED prep program sets itself apart as their program/intervention offers systemic and pervasive trauma-informed instruction throughout to trauma-affected adults on their journey towards GED certification. Its program is driven at the systems level by trauma-informed literacy best practices. This examination of a less rigid and less structured teaching method will provide new insights into this type of trauma-informed literacy intervention specific to adults in Texas. Further, this investigation quantitatively measures, via statistical analysis of student *ged.com pretest* scores, the efficacy of the program, a factor demonstrated as lacking in other program-level evaluations.

The next sections will provide a synthesis of key findings related to trauma's effects on learning associated with a combination of research methodologies: systematic reviews, qualitative, quantitative, and mixed methods research.

Trauma's Effects on Learning

"We tend to prefer the certainty of misery to the misery of uncertainty" (Perry & Szalavitz, 2017, p. 56).*

Search Results

A search for "trauma's effects on learning" via JSTOR, on December 07, 2020, returned 295 results. Results specific to "trauma's effects on learning" and "andragogy" were 6. When searching "trauma's effects on learning" and "adults" there were 203. The

same search with "GED" added returned just 5. A search of the identical terms in Educational Resource Information Clearinghouse (ERIC) returned 54,349 results for "trauma's effects on learning," with 1,885 in 2020. These results were winnowed to 589 by adding the term "GED." The further search criteria "quantitative" reduced this number to 587 and "qualitative" returned the same result of 587. Results specific to the "pretest and posttest" design numbered 160. A review of the abstracts for research related to the present investigation was performed and a selection of those was reviewed below.

Research Associated with Trauma's Effects on Learning

Trauma truncates outcomes for learners of all ages and is inclusive of the diminution of both sociocultural and socioeconomic life trajectories. A deeper understanding of this phenomenon will aid trauma-informed practitioners to better identify and deal with trauma-affected students in their learning spaces. Adult learners who have faced traumatic events are often not able to reach adequate education levels and frequently face a lifetime of diminished outcomes as well as poor health and a lack of upward mobility. A Turkey-based non-profit organization that assisted with the creation of trauma-informed schools that educate Syrian refugees, Maya Vakfi (2019) reported that: "Trauma can affect a child's behavior and ability to do well at school as well as the overall learning environment for other students if not addressed properly." (p. 5). Additionally, learners who have been exposed to traumatic experiences face "executive dysfunction" (Flaks et al., 2014, p. 32), and that there appear[ed] to be a correlation with "negative effects on education" (p. 32). Further, trauma has been shown to affect multiple necessary skills related to success in the classroom; among them, some students are unable to engage in higher-order thinking, they are incapable of perspective and can

appear insensitive, have diminished memory, exhibit an inability to sequence events, lack problem-solving skills, often cannot focus, or pay attention, cannot understand cause and effect, and are unable to engage in abstract thinking. Further, ". . . with prolonged fear there can be chronic or near-permanent changes in the brain [and] may cause and enduring shift to a more impulsive, more aggressive, less thoughtful, and less compassionate way of responding to the world" (Perry & Szalavitz, 2017, p. 69). (Birzer, 2004; Brinkley-Etzkorn, 2016; Brunzel et al., 2016a, 2016b; Caputo, 2005; Carr-Hill, 2020; Chin, 2005; Dutro, 2019; Emdin, 2016; Fisher et al., 2016; Fisher, 2016; Frelin et al., 2018; Jones, 2012; Kerka, 2002; Kisiel et al., 2018; Lanktree et al., 2012; McInerney & McKlindon, 2014; Phifer, & Hull, 2016; SAMHSA, 2019; Siegel & Bryson, 2012; The Bill & Melinda Gates Foundation, 2020; thebestschools.org, 2019; Walsh, 2019).

The next section will examine the literature associated with trauma's effects on learning and the learner. The review will include research connected with foster-care youth, post-secondary learners, combat veterans, school-age dependents of deployed military personnel, 3rd grade African American males, high achieving middle-class students, and PTSD-affected adults in Brazil. Each review will speak to the debilitating effects of trauma on learning spaces across a broad spectrum of geographic locale, age groups, and socio-economic situations.

Systematic Review

Military service can be especially traumatic for not only the service member but their families too. Military children face a raft of issues related to their caregiver's time on military deployment including secondary trauma, witness to violence trauma, and

intergenerational trauma passed on to them by their serving parent (Baranowsky et al., 1998; Gaywish & Mordoch, 2018; Motta et al., 1997; Rosenheck, 1986).

DePedro et al. (2011) reviewed previous research associated with the "psychological, behavioral, and academic outcomes for children in military families" (p. 566). They concentrated on ". . . the lack of educational research on military children" (p. 566) with special attention given to students with "special circumstances and stressors" (p. 566) due to a parent's involvement in the wars in Afghanistan and Iraq. Their review concentrated on 4 complementing bodies of literature. One, the mental health status of military families, as it related to the "potential impact of poor mental health on school success, attendance, special education assessment . . . and counseling services" (p. 568). Two, "child maltreatment in military families" (p. 568). Third, the disruption of family normality cycles due to military deployments, such as increased responsibilities, mental health concerns of the remaining parent, or the "combat-related physical or psychological trauma of a parent" (p. 586). All data were collected from 84 ($n = 84$) peer-reviewed articles bounded from 1974-2011. Their review informed that in "past wars . . . military children and families may have significant mental health . . . issues as a result of a returning veteran parent with severe war trauma" (p. 609). And, recommended, "creating supportive school environments for military children" (p. 609). Further, the researcher appealed for additional research into topics linked to trauma's effects on school-age children's military parents.

Qualitative Research Methods

Trauma's effects do not discriminate. Populations are as varied as former foster youth, American Indian learners on reservations, college students who are combat veterans, and refugees looking for a new start (Beyerlein et al., 2014; Clemens et al., 2017; Gaywish and Mordoch, 2018; Magro, 2006/2007; Medley et al., 2017; Salazar et al., 2013).

A significant portion of the participants in the current research project is comprised of learners who have aged out of the foster-care system. Clemens, et al. (2017) examined the relationship between former foster-care youth and dropout rates. The researchers conducted 4 focus groups, using a qualitative constructivist approach, with 16 participants averaging 21.6 years of age. The majority were female. "Ten youth reported dropping out of school one or more times" (p. 68). Others felt disengaged from their education due to being moved multiple times while in the foster-care system. "A desire for school stability" (p. 72) dominated the discussions. The authors concluded that ". . . the educational attainment gap for students in foster care will become increasingly visible [and that the] emotional consequences of being a student in foster care . . . may be shaped by their struggles to meet basic needs" (p. 76).

Gaywish and Mordoch (2018) qualitatively analyzed, via semi-structured interviews, the effects of intergenerational trauma (IGT) on learning in post-secondary institutions. IGT is defined as ". . . occurring when the maladaptive effects of an original trauma experience, such as historic trauma . . . results in unhealthy effects on the first generation being passed down to the next generation or multiple generations" (p. 3). Their study queried the ". . . effects of IGT in the classroom and the resultant problems

students face in their educational journey" (p. 3). Sixteen students, 10 instructors, and 9 administrators participated in the interviews. Key themes included "the meaning of intergenerational trauma to students" (p. 9) and "the impact of intergenerational trauma on the students' educational journeys" (p. 10). For some participants, the pervasiveness of trauma in their journeys was manifest. ". . . Some disclosed histories of poverty, family dysfunction, child welfare involvement, alcoholism, and drug use in addition to experiences with racism and lateral violence that took place before and during their university studies" (p. 10). Many ". . . students discussed the damaging effects and their passion to end the cycle of trauma (p. 10). For others ". . . positive effects, such as motivation to succeed, [were] noted [and] that these positive effects were accompanied by painful memories" (p. 10). Traumatic effects such as a lack of confidence, family disconnection, stress triggers, fragmented identity, fear of stigmatization, anger and defensive reactions, resentment from family and community, and especially possessing an inadequate educational background were all revealed by the participants. The investigation created valuable student-initiated recommendations for instructors and program managers including, working to build trust, helping students build self-esteem, that trauma survivors may need counseling, remain open-minded, and "recogniz[ing] that people may have difficulty coping in new systems" (p. 17). This investigation is important in the current research as it speaks to a multigenerational model of trauma that continues to cause wreckage in learning spaces long after the initial shock.

Medley et al. (2017) informed on the ". . . mental health . . . burdens associated with lower academic [performance] and non-completion in college students" experiencing "high incidence of combat-related trauma exposure" (p. 83). Their

examination of student veterans in rural community colleges in the southern United States supposed that "combat-related trauma exposure impact[ed] classroom integration and academic achievement" (p. 83). Their qualitative research incorporated 11 community colleges and sought to include all veterans, in those community colleges, using the *Post 9/11 G. I. Bill*. Participants were screened for ". . . socio-demographic characteristics, mental health burden, and treatment seeking behaviors" (p. 85). The veterans were also screened for depression, General Anxiety Disorder (GAD), "a common anxiety disorder that involves constant and chronic worrying, nervousness, and tension" (Smith & Segel, 2020), and/or PTSD. A total of 23 participants met all criteria and took part in in-depth and semi-structured interviews as well as focus group discussions. The participants ". . . described hypervigilance and intense reaction to everyday sights and sounds as well as having a short temper and angry outbursts upon . . . reintegration into civilian life" (p. 86). They discussed the "psychological effects of trauma" (p. 86) and its hindrance to "pursuing civilian education" (p. 86). Many veteran/students reported difficulty with managing their educational commitments with other responsibilities; some dropped or quit attending classes. "Events or situations on campus that triggered memories related to combat further complicated the ability of veterans to integrate into the classroom and achieve academic success" (p. 88). Additionally, ". . . memories related to traumatic experiences . . . interfered with their ability to focus and concentrate during class" (p. 88).

Magro (2006/2007) investigated the difficulties literacy educators had when working with 8 adult ESL learners who had, in their home country, been exposed to trauma due to war. Her ". . . indepth [sic] interviews, biographies, and narrative inquiries

. . . explored adult learners' experiences in their homelands, their personal challenges, and their educational experiences since arriving in Canada" (p. 71). She reasoned that the ". . . challenges of resettlement cannot be separated from literacy and language development" (p. 71). However, factors related to "fear, low self-esteem, and depression" combined with "loss, suffering, [attempted] learning amid adversity, and apprehension about the future" (p. 72) created impediments to academic success.

Summation of Literature Associated with Qualitative Research Methods

This section presented investigative topics that informed on qualitative research methodologies. They highlight the diversity of populations and settings where trauma's effects on learning are manifested. Former foster youth ". . . represent a highly traumatized population" (Salazar et al., 2013, p. 545). Intergenerational trauma was appraised via the crisis in education on American Indian reservations. The transfer of trauma from parents to their children is a common theme within the current research population where violence and poverty are systemic and at times inherited. Trauma is real for warfighters as they attempted to reintegrate into higher education and is particularly prescient in a country that was been in conflicts stretching across decades. Refugees are not immune from the impacts of trauma either. They suffer angst driven by separation from all they know. And the newness of their surroundings is not comforting (Clemens et al., 2017; Gaywish & Mordoch, 2018; Grazier, 2020; Magro, 2006/2007; Maya Vakfi, 2019; Medley et al., 2017; Salazar et al., 2013).

Quantitative Research Methods

The use of quantitative methodologies to inform on themes related to trauma's impact on learning spaces is an important tool for researchers. Positive or negative research results allow future curriculum or program designers to create templates for broader use in trauma-affected learning spaces. This section examines trauma-exposed 3rd grade African American males and their reading scores as well as analyzing middle-class youth and high-school drop-out rates (Franklin & Streeter, 1995; Powell, 2018).

Powell (2018) investigated the relationship between PTSD and 3rd-grade reading scores of African American males. She examined the "disparities in academic performance caused by the negative outcomes of childhood exposure to trauma" (p. 1). She intimated that "a focus on posttraumatic symptoms and academic performance can better inform educators for suitable academic intervention for young African America males" (p. 2). The males were "retained and current fourth grade African American males" (p. 55). A total of 85 students participated in the study, 48 who "indicated clinical level trauma" (p. 55) and 37 who were rated low or no level of traumatic exposure as scored by the *Trauma Symptom Checklist for Young Children* (TSCYC). She used a quantitative-predictive design based on parental reporting of trauma symptoms of their children. This was partnered with *STAAR* assessment reading scores. The results confirmed that "posttraumatic stress symptoms significantly predicted reading scale scores" and that "lower intrusive traumatic thoughts were associated with higher reading scale scores" (p. 74). The research results are encouraging and generate the potential for "targeting" specific prescreened students for trauma-informed literacy practices that can assist in the mitigation of poor performance in academic settings.

Franklin and Streeter (1995) examined high-school dropout rates among middle-class students that were "high achieving and majority youth" (p. 433). This research used empirical data from 200 dropouts, who left an alternative school program, to ascertain the causes for these students leaving school. These reasons included academic issues, psychological concerns, and family-related causes. The "quasi-experimental research used a pre-test and post-test evaluation design" (p. 436). Each participant was given multiple assessments including the *Hilson Adolescent Profile* (HAP), a standardized behavioral assessment instrument, the *Cassata History Questionnaire*, which assessed ". . . reasons for drop[ing] out, school history, demographic, academic and treatment history information" (p. 437), the *Family Adaptability and Cohesion Scale III* (FACES III) designed to assess family functionality, and the *Test of Adult Basic Education* (TABE) which measures ". . . achievement in reading, mathematics, language, and spelling (p. 438). The reasons for leaving school were myriad, including drug and alcohol use, having attended 5 or more schools in their lifetime, "psychosocial" issues related to an ". . . inability to get along in a school environment . . . difficulty with the classroom and academic experience, and . . . truancy" (p. 438). Clinical diagnoses such as ADHD and learning disabilities were evident as well. Mental health and family functioning issues were recorded as possible correlates to dropping out. Markers of traumatic experiences are replete in the data: pregnancy 3.5 %, family problems 29.5 %, and failing grades 54%.

Summation of Literature Associated with Quantitative Research Methods

Quantitative research is often exploratory (Pajo, 2018). By examining the results for one population, in one instance, it may be feasible to extrapolate those findings onto another like set of learners. The reviewed literature in this section sought to review two sets of information from two quite different data sets and populations. Each provided a starting point from which future researchers can seek to make assumptions regarding trauma-affected students. And from there create a curriculum or programs better suited to mitigating its effects in learning spaces.

For 3rd grade African American males, a reality was posited suggesting that trauma affected their ability to read. This supposition was reinforced by an analysis of reading scores from standardized tests. For middle-class students' school dropout rates are indicators of exposure to traumatic experiences. That reality was borne out by Franklin and Streeter's (1995) quantitative investigation.

Mixed Methods Research

Adults living in communities where violence is pervasive can suffer from PTSD. Flaks et al. (2014) examined the effects of trauma on Brazilian adults which focused on the painful effects of PTSD on 81 victims of urban violence, 70 persons exposed to the same violent environment but did not develop PTSD, and a healthy control group of 50 (p. 32). Their methodology captured data both quantitatively and qualitatively. Qualitative data was collected from a multiplicity of instruments, among them *CAPS* which provided a rating scale to clinical data captured from interviews, the *SCID-I* which ". . . allows for the diagnosis of mental health disorders" via semi-structured interviews

(p. 34). And the *Social Adjustment Scale* (SAS) ". . . a self-reported assessment related to social adjustment" (p. 34). Quantitative data was captured in multiple ways as well, including the *Spatial Span Subtest* (WMS-III) measuring sustained attention, the *Stroop Test* assessing cognitive flexibility, and the *Vocabulary Subtest* (WAIS-III) which measure language ability and ". . . the capacity to define words" (p. 34). In participants that ultimately developed PTSD due to exposure to their violent environment, trauma's effects were identified, including short-term capacity, selective attention, processing speeds, and inhibitory control. "The PTSD+ group had poorer performance and poorer execution time and accuracy" (p. 32) Further, this ". . . appear[s] to correlate with negative effects on education, work, daily life activities, and social relations, as well as the re-experiencing, avoidance, and hyperarousal symptoms of PTSD" (p. 32).

Cumulation of Literature Associated with Trauma's Effects on Learning

Trauma's effects on learning are well established in the literature (Clemens et al., 2017; DePedro, 2011; Dutro, 2019; Emdin, 2016; Flaks et al., 2014; Franklin & Streeter, 1995; Frelin et al., 2018; Gaywish & Mordoch, 2018; Kerka, 2002; McInerney & McKlindon, 2014; Medley et al., 2017; Powell, 2018; Siegel & Bryson, 2012). This review encompassed a sampling of age groups, situations, and causes of trauma that have been documented to affect learning spaces globally. Former foster care youth and their concomitant dropout rates were examined (Clemens et al., 2017), intergenerational trauma as it related to truncated outcomes on American Indian reservations (Gaywish & Mordoch, 2018), adult college students who were affected by war-related trauma (Medley et al., 2017), PTSD was evaluated in African American (male) 3rd-grade reading scores (Powell, 2018), dropout rates for higher socioeconomic status students endangered

by trauma (Franklin & Streeter, 1995), Brazilian adults who faced PTSD as victims of urban violence (Flaks et al., 2014), and reduced academic outcomes for students who had a parent deployed to Afghanistan or Iraq and their subsequent ancillary trauma (DePedro et al., 2011) all provided critical insight into trauma's effects on the learner and learning environments. The penultimate reason for the casting of such a wide net is to provide the reader with deeper insight into the complexity, distribution of, and omnipresence of trauma-affected students. There are many similarities between the reviewed populations and the participants in the current investigation. Persons who are living in poverty, those who have been a witness to violence, students that have been chronically abused, (sexually, physically, and emotionally), and those facing homelessness, foster care, or are victims of a feedback loop of violence poverty, and despair. They mirror the population of trauma-affected learners in the Texas-based non-profit's trauma-informed GED prep program. Trauma and its effects are rampant in sociocultural and socioeconomically disadvantaged populations, and their effect on learning is universal and does not discriminate, as has been shown in this review, based on age, sex, or geography.

The reviewed research associated with trauma's effects on learning posited a variety of potential research implications. DePedro et al. (2011) hoped their research would encourage future education investigators to include military families in their studies, informing they found unusually little-observed evidence of how civilian schools responded to or support military families. Additionally, they sought more work on supportive school climates that fostered academic and social outcomes for children from military families. Franklin and Streeter (1995) called for collaboration between ". . . school, psychological and family services" (p. 447) when seeking outcomes for potential

dropouts. Clemens et al. (2017) voiced concerns about the transferability of their study's results ". . . to other contexts" (p. 70) and suggested future researchers provide caveats related to "specific transferability consideration[s]" (p. 70). Gaywish and Murdoch (2018) affirmed that a "trauma-informed approach to education is crucial for mitigating the effects of intergenerational trauma" and called for "Program instructors and administrators [to] consider strategies to mitigate IGT's impact on education" (p. 19).

The next sections will emphasize trauma-informed literacy practices, specifically, the two techniques most utilized by instructors and tutors in the current research project. One, the establishment of a strong student-teacher relationship, and two, the creation of *felt safety* in learning spaces as well as providing a synthesis of key findings associated with an amalgam of research methodologies: systematic reviews, qualitative, quantitative, and mixed methods research.

Trauma-Informed Literacy Practices

"Trauma-informed teaching is not a curriculum, set of prescribed strategies, or something you need to "add to your plate." It's more like a lens through which you choose to view your students which will help you build better relationships, prevent conflict, and teach them effectively" (Watson, 2019).

Search Results

Trauma-informed literacy practices, specific to strong student-teacher relationships and creating *felt safety* in learning spaces, are well documented in the literature. A search for "teacher-student relationships" via JSTOR, on December 19, 2020, returned 67,031 results. The search was diminished to 12,003 when bounded by the

years 2010-2020. A further reduction was done by searching both "teacher-student relationship AND trauma to 383 and 363 when tagging journals only. These results were further culled by querying whether the journal articles were research-based publications. An evaluation of titles and the review of abstracts further reduced the number. Acceptable articles were stored in an Excel spreadsheet. Entries were reviewed and those with like research parameters are reviewed here. A search in JSTOR, on December 21, 2020, for "felt safety" AND "trauma "returned 506 results. A further reduction to 155 was achieved when the search was bounded by the years 2010 and 2020. These results were further reduced by querying whether the journal articles were research-based publications. An evaluation of titles and reviewing abstracts further reduced the number. Acceptable articles were stored in an Excel spreadsheet. Entries were reviewed and those with like research parameters are reviewed here.

Research Associated with Trauma-Informed Literacy Practices Specific to Student-Teacher Relationships and Creating *Felt Safety* in Learning Spaces

This section reports on trauma-informed literacy practices conducted at the practitioner level; what teachers, staff, and administrators can do to combat trauma's effects in learning spaces. Classrooms, both nationally and internationally, are in critical need of trauma-informed literacy interventions to better empower learners. Students across the planet are daily exposed to trauma and millions are living with the consequences of abuse, neglect, poverty, and homelessness (SAMHSA, 2019; Maya Vakfi, 2019).

As cited in previous sections of this review, many teachers face the challenges of educating trauma-affected students, students who present a range of symptoms and behaviors including attention-deficit hyperactivity disorder (ADHD), peer bullying, school refusal, conduct, and oppositional defiance disorders, distracted or aggressive behavior, limited attentional capacities, poor emotional regulation, and/or hypervigilance. "[C]hildren's brains grow and are molded by the people around them" (Perry & Szalavitz, 2017, p. xxviii) so, teachers need toolkits to better soothe trauma's effects on the learning process and the learner.

Trauma-informed literacy practices vary depending on the practitioner and the learning space. However, they follow critical templates, among them, basing a school's culture firmly on understanding and responding to trauma, creating *felt safety* in all learning spaces, strong professional development in social-emotional learning (SEL), and dynamic student-teacher relationships.

The next section will be divided into 2 parts to better explicate each phenomenon in-depth and will focus on two trauma-informed literacy tenants. One, the necessity of creating strong teacher-student relationships, and promoting the idea that ". . . consistent, caring relationships are one of the biggest factors in helping children [and adults] heal from trauma" (Venets, 2018). And two, fostering in students the idea that they are safe from harm and that having *felt safety* can help them to positively begin their educational journey.

Research on Student-Teacher Relationships

"Without love, children literally don't grow" (Perry & Szalavitz, 2017, p. 99).

A fruitful and caring student-teacher relationship can create a positive dynamic for learning environments. "The nature of a child's relationships[,] both before and after trauma[,] . . . play a critical role in shaping their response to it [and] . . . if safe, familiar, and capable caregivers were available to children, they tended to recover more easily" (Perry & Szalavitz, 2017, p. 70). Intimately knowing how your students interact and react to a literacy-related stimulus can create positivity and reduce barriers (Baker, 2006; Ennis & McCauley, 2002; Korbey, 2017; Krstic, 2015; Livingstone et al., 2014; Schwartz, 2019; Staufenberg, 2018). "Relational features of the educational environment, such as positive teacher-student relationships, are important for students' academic success" (Frelin, 2018, p. 407). Perry and Szalavitz (2017) stated,

> "Recognizing the power of relationships and relational cues is essential to effective therapeutic work and, indeed, to effective parenting, caregiving, teaching, and just about any other human endeavor" (p. 71). Further, they intimated that schools need to change, to shift focus from exclusively cognitive pursuits and save time for ". . . model[ing] behaviors that emphasize the importance of relationships, empathy and kindness in their interactions with [other] people" (p. 267).

Establishing trust can repair a student's self-image. Students need to feel and believe they are successful learners. Each member of the dynamic benefits from this type of relationship and the diminution of obstacles helps pupils become more effective in

school. Everyday interactions provide the basis for these results, both socially and academically. Trauma is a limiting factor concerning academic achievement and fear of failure can have a disempowering effect on students. Promoting good relations between students and teachers can be important for what students produce in school (Backman et al., 2012; Frelin, 2018). Additional research informs that interpersonal behavior, as perceived by students, might be an important if not the most important variable for educational effectiveness (Brok, et al., 2004; Perry & Szalavitz, 2017).

Academic success is not all that is at stake. Creating a communally competent student, one that can interact socially with their peers and teachers is important as well. Molding learners who have a respectful, positive, safe, and healthy set of behaviors create a learner that can effectively contribute to classroom discourse. Teachers that are socially and emotionally experienced can successfully create relationships and environments that are supportive and encouraging for their students as well as provide crucial modeling for interactions both inside and outside of the classroom (Alisic, 2012; Brunzell, et al., 2016a, 2016b; CASEL, 2020; Do et al., 2019; Holley & Steiner, 2005; Koso & Hansen, 2006; National Child Traumatic Stress Network, 2014; Soma, 2017; Suarez-Morales et al., 2017; Suliman et al., 2009).

The next section will review the literature applicable to the creation of strong student-teacher relationships as a salve for reducing trauma's effects on learners as well as providing a synthesis of key findings associated with an amalgam of research methodologies: qualitative, quantitative, and meta-analysis.

Qualitative Research Methods

Frelin et al. (2018) remarked that "positive teacher-student relationships, are important for students' academic success" (p. 407). Her case study of *Gunilla* an "upper secondary teacher of Swedish and social studies" (p. 411) examined the efficacy of an *Introduction Programme* for students deemed ineligible for additional schooling and "risk[ed] some kind stigmatization" (p. 412) for not moving forward from basic education to one of Sweden's many other education platforms, such as higher education, vocational preparatory programs, or upper secondary programs. The main purpose of the program was to "negotiate and re-establish the students' faith in the adult world" (p. 414). *Gunilla* was described as a "successful teacher for students who have failed at school" (p. 407). The case study ". . . explore[d] the relational practices of a teacher who negotiates educational relationships with students who have a history of school failure" (p. 410). The choice of a case study for this research was appropriate as it allowed the investigator to ". . . focus in-depth on relationships and processes and how to disentangle the complexity of a given situation (p. 410).

The results focused on negotiating trusting relationships and found that "trust was an important feature of student-teacher relationships (p. 413). *Gunilla* informed that a "caring teacher-student relationship [was] important for students and make them want to come to school" (p. 413). Additionally, ". . . if students feel trusted by the teachers, they are more likely to feel that they have let them down if they miss school and are more likely to come to school if they are trusted" (p. 413). Further, "a home-like atmosphere of the school helps facilitate the building of trusting teacher-student relationships" (p. 413).

However, ". . . sometimes the teachers need to be very straightforward about how they get a message communicated to the students" (p. 414).

Livingstone et al. (2014) conducted a youth participatory action research (YPAR) project with black high school students (aged 15-18 years of age) in Montreal. The authors sought to give a voice to the participants by ". . . shift[ing] the objective of doing research *on youth* to doing research *with youth"* (p. 286). Their research model ". . . breaks away from established hierarchies of power between youth and adults [and sought to establish] trusting and nurturing relationships . . . so that youth feel safe examining sensitive topics" (p. 288). The participants were asked to inform on reasons behind dropout rates for black youth in their community, including discussions incapsulating ". . . family, peers, schools, and neighborhood surroundings" as well as "school climate, the support of staff and quality of services" (p. 296). The student researchers asserted that "schools must take a holistic approach that fosters a climate of high expectations [and that] positive student-teacher relationships [were critical and discussed] . . . the importance that black students attach to their relationships with teachers" (pp. 296-297). Also, they related that "Teachers . . . have great influence and don't often realize it" (p. 297). The students "blamed the dismal school climate on tensions between teachers and students" (p. 298). Further, they were dismayed by the poor quality of some of the teachers" and felt more challenged when "teachers set high expectations for their success and provide[d] the support and encouragement they need[ed]" (p. 298).

Summation of Strong Student-Teacher Relationship Qualitative Research

Methods. Strong student-teacher relationships create a launching pad from which all other learning processes develop. A learner, especially one who has faced traumatic experiences, is aided by a benevolent guiding hand. This review synthesized research from a variety of settings and populations. *Gunilla* worked with adult students in Sweden who had been discarded by the limitations built into their education system (Frelin et al., (2018). Young adults (15-18 years of age) created their research in Canada, where they generated projects with the help of their teachers and examined peer experiences in their schools (Livingstone et al., 2014). Each review sought to add understanding to the overarching idea that students need help from kind and caring individuals that have an interest in their growth. Additionally, those learners who have been a part of a strong student-teacher relationship are often better able to move beyond the negative experiences truncating their educational growth.

Quantitative Research Methods

Baker (2006) examined ". . . the extent to which teacher-child relationship contributed to school adjustment" (p. 211). Her research included 1,310 elementary school-aged students, many designated as "at-risk students" (p. 215). She explored whether relationships had ". . . a consistent and comparable effect for children across grades, gender, and types of school outcomes" (p. 211). Beginning with the supposition that ". . . children experiencing behavioral or learning problems showed poorer school outcomes [she reported that] children with developmental vulnerabilities *and* close teacher relationships were significantly relative to similarly affected peers who lacked such relationships" (p. 211). Sixty-eight teachers participated in the survey. There was a

"90% participation rate at each of the schools" (p. 215). Multiple instruments were used to capture data, such as the *Student-Teacher Relationship Scale* (STRS) used as "a measure of teacher-child relationship quality" (p. 215) and the *Behavior Assessment System for Children-Teacher Rating Scales for Children* (BASC TRS-C). Additional data was associated with academic achievement and classroom adjustment.

The results of the surveys were positive, ". . . suggest[ing] a consistent benefit for children across grades, gender, and types of school outcomes with effect sizes mostly in the small to moderate range" (p. 223). And "closeness in the student-teacher relationship shows a low moderate association with reading grades and positive work habits and a more pronounced association with children's social skills" (p. 218). Additionally, ". . . the results from [the] study further[ed] our understanding of the effects of problem behaviors on children's school adaptation, and the potential for a positive teacher relationship to compensate for those deficits" (p. 223). Further, that "Teacher-child relationship quality predicted behavioral and academic indicators of school success" (p. 223) especially for the elementary years of schooling.

Krstic (2015) investigated the ". . . quality of student-teacher interactions and teachers' practices related [to] school achievement during primary education" (p. 167) specifically, teacher practices associated with "strict leadership, instructional support, helping/friendly, conflict and dissatisfaction" (p. 167). Her research centered on 366 4th-7th grade primary school students from Belgrade, Serbia where students have one teacher for the first four years of education. Four data collection instruments were used *The Questionnaire on Teacher Interaction* (QTI), *The Classroom Assessment Scoring System*

(CLASS), *The Student Teacher Relationship Scale* (STRS), and *The Components of Attachment Questionnaire* (CAQ). Krstic's findings

> "... show that attachment to [a] class teacher in [the] 4th grade has [an] influence on both school marks and attitudes towards school, while 7th grade attachment to [a] Math teacher has [an] influence just on student's attitudes towards school and learning and not on the Math marks" (p. 178).

These results affirmed that a "Teachers' positive emotional relationship towards students and a quality of instructional support have . . . as [sic] direct influence on students' positive attitudes towards school and school marks" (p. 176). Further, the research ". . . extend[ed] . . . [an] understanding of relationships between student-teacher attachment and students' schools [sic] marks and attitudes towards school and learning in primary schools" (p. 178).

Summation of Strong Student-Teacher Relationship Quantitative Research Methods. The previous review of statistical analysis research associated with student-teacher relationships, and their role in reducing trauma's effects on learning, provided constructive feedback and touted the efficacy of the trauma-informed literacy practice. The reviewed literature highlighted the correlations between strong student-teacher relationships and positive outcomes in classrooms with behavior issues. Also, critiqued was the relationship between attachment to a teacher and upgraded reading and math scores as well as overall attitudes to school and learning (Baker, 2006; Krstic, 2015). Many of the participants in the Texas-based non-profit's trauma-informed GED prep program have broken relationships with persons, in learning environments, that have hindered their educational advancement. Recreating those crucial connections is

important not only to their success in the GED prep program but their success in any future learning environment.

Meta-Analysis

Dods (2013) asserted that . . . "Student-teacher relationships play a critical role in supporting the learning and well-being of students with mental health problems" (p. 71). Her research synthesized literature from prior work on student-teacher relationships and sought to better "understand the aspects of school-based relationships that are beneficial for students who have experienced trauma" (p. 71). The investigation, based on "first-person accounts of . . . youth led to the development of a model that describe[d] the core needs created by experiencing trauma and the nature of student-teacher relationships" (p. 71). These theories informed on characteristics necessary to build quality and powerful teacher-student relationships that meet the academic needs of students. One, relationships need to be teacher-driven, two must exhibit "authentic caring", three, a teacher must be in touch with the socio-emotional needs of their students, and four, "individualized"; working from the assumption that there is no one-size-fits-all solution (p. 71).

Other results indicated that "student-teacher relationships [were a] key predictor of decreased at-risk behavior" (p. 75) and viewed ". . . relationship[s] as the infrastructure of school success" (p. 76). Additionally, the findings supported the assumption that . . . "Student-teacher relationships are an effective strategy for supporting the learning and well-being of students who have experienced trauma" (p. 86). Further, the students themselves ". . . wanted a teacher who provided a safe learning environment and had a willingness to connect with students" (pp. 86-87).

Summation of Literature Associated with Student-Teacher Relationships

The literature is replete with benefic references to the efficacy of strong student-teacher relationships being a critical building block for trauma-informed literacy practices. Building a set of techniques for positive student-teacher interactions can increase academic engagement and decrease disruptive behavior. "Trusting relationships between teachers and students . . . is essential to maintaining an effective learning environment" (Ennis & McCauley, 2002, p. 149). (Brunzell et al., 2016a, 2016b; Ennis & McCauley, 2002; Korbey, 2017; Livingstone et al., 2014; Maya Vakfi, 2019; Schwartz, 2019; Terada, 2019).

The literature synthesized in the previous sections affirms the supposition that a healthy relationship between teacher and student can be critical to mitigating trauma's effects on learning. This review encompassed an array of learning spaces, including elementary school children in the U.S., where a high percentage of students were classified at-risk and over 50% of the population failed to graduate, 4th-7th graders in Serbia, Sweden, where young adults faced the possibility of attenuated academic futures due to previous school-related failures, and 15-18-year-old black youth in Canada. Voices from both sides of the classroom were heard: *Gunilla* provided a teachers' perspective and student researchers in Canada supplied insight from their viewpoint on how teachers were perceived by their students.

The current research, centered on adult learners in a Texas-based non-profit's trauma-informed GED prep program, is comprised of students having similar poor relationships that have dominated their prior educational journeys. These students may benefit from a strong and benevolent guide throughout the GED certification process.

Frelin et al., (2018) called for the imbrication of what the teacher *Gunilla* accomplished, with adult learners facing trauma in their learning space, with the practice of "building a therapeutic alliance" (p. 417) which is what psychologists do to build positive mental health. However, they caution that their case study is only one teacher in one location and that results could be defined by *Gunilla's* skill set. Livingstone et al. (2014) touted the success of their YPAR but cautioned that future researchers should understand that a "balance had to be struck between adult supervision and youth autonomy" (p. 301). Additionally, "adults working on youth-adult partnerships must sharpen their abilities to balance, negotiate, and creatively adapt their roles to changing situations" (p. 301).

The current research adds to this body of work by quantitively analyzing how the implementation of the trauma-informed literacy practices, building strong student-teacher relationships, and the creation of *felt safety* in learning spaces causes an effect in *ged.com pretest* scores.

The next section will review the literature associated with creating *felt safety* in the classroom and provide a synthesis of key findings associated with an amalgam of research methodologies: qualitative and quantitative.

Research on the Creation of *Felt Safety* in Learning Spaces

Creating a sense of *felt safety* in learning spaces is an effective trauma-informed literacy practice that can be utilized by teachers seeking to mitigate the effects of traumatic experiences on their students. Kerka (2002) intimated that . . . "Traumatic events add extreme challenges to the learning process (p. 1). Creating a safe space where there is ". . . a commitment . . . to creating and sustaining an atmosphere in which the

[learner feels] at ease, self-confident, and inspired to speak freely and express their opinions" (Livingstone et al., 2014, p. 302) is a positive step to soothing issues related to traumatic events. Perry and Szalavitz (2017) agreed and noted ". . . traumatized children . . . need predictability, routine, a sense of control and stable relationships with supportive people [and that] . . . creat[ing] consistency, routine, and familiarity, . . . establishing order, setting up clear boundaries, [and] improving cross-organizational communication" (pp. 64-65) is of the utmost importance as well.

Creating a sense of *felt safety* is an overarching goal for the trauma-affected student's ability to move forward in an educational journey. Inuring learning spaces with safety modify how and how much students learn (Holley & Steiner, 2005). Purvis et al. (2007) described ". . . disturbing behaviors like tantrums, hiding, hyperactivity, or aggressiveness [that are] triggered by a . . . deep, primal fear [due to] past traumas encoded within their brains" (p. 47). They inform that ". . . adults [can] arrange the environment and adjust their behavior so [learners] can feel in a profound and basic way that they are truly safe" (p. 48). Additionally, they asserted that ". . . when a child feels genuinely safe, the primitive brain lets down its guard and allows trust to blossom and bonding to begin" (p. 49).

Locus classicus A. H. Maslow's *Hierarchy of Needs* (Figure 1) placed s*afety* above the physiological functions necessary to keep a person alive (Maslow, 1943). Souers and Hall (2018) advised that students "need to know that school is a safe place where people care about their well-being [where] each one of them [is] valued [and] capable."

Figure 1

Maslow's Hierarchy of Needs
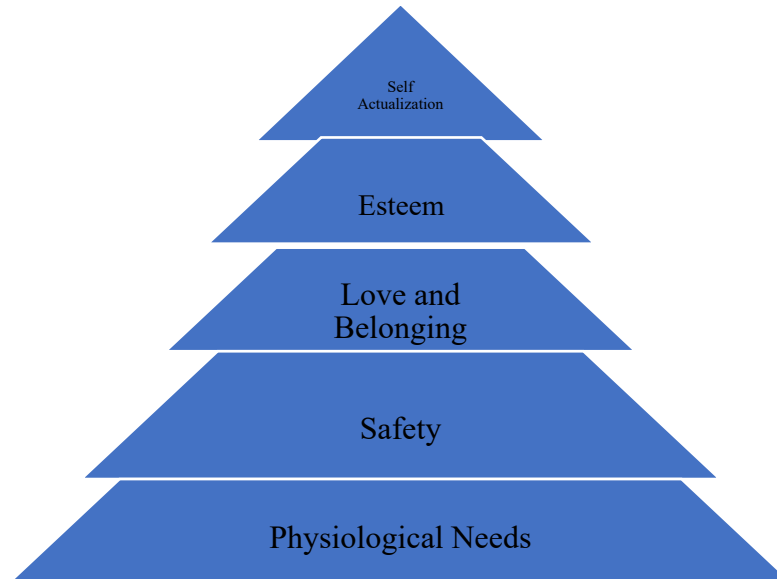
The next sections will review research-based literature associated with *felt safety* in the classroom.

Qualitative Research Methods

Agbenyega (2011) intimated that "Safe learning spaces allow children to explore their environment in an open and inquiring way, whereas unsafe spaces constrain, frustrate and disengage children from experiencing the fullness of learning spaces" (p. 163). His research concentrated on children "making sense of safe and unsafe learning spaces [and] how this understanding affects the ways they engage with their learning spaces" (p. 163). His research focused on 1 early childhood setting, a childcare center in Australia, with kids 0-5 years old ($n = 45$) and assessed the "children's movement and interactions" within their learning spaces" (pp. 163 & 165). Six teachers were in the space during the review. The children were asked to take photos of places they felt safe

and places they did not feel safe. The activity was repeated for 5 days and analyzed for discernable patterns. The data was evaluated using conversational analysis, systematic content analysis, and semiotic analysis. Spaces, such as the parent's area ". . . show[ed] evidence of a space where children felt safe, content, relaxed and creative" (p. 168). Less welcoming for the students were restrictive spaces or places that were perceived as "over supervised" (p. 169) by teachers. Their research allowed the learner to make decisions regarding where they felt safe. This choice is a critical component of trauma-informed literacy. The reduction of stressful places or situations can aid in soothing the student and allow a more conducive learning atmosphere.

Bartolome (2016) investigated the journey of *Melanie* a transgender female completing her preservice requirements as she worked towards becoming a music teacher. The narrative study followed *Melanie* for three years and was compiled using ten 90-minute interviews, field texts, observations of *Melanie* during her practicum and student teaching as well as her blog, and reflective writings. The study "illuminate[d] considerations for music educators at all levels endeavoring to cultivate safe learning environments for students of diverse gender activities" (p. 25). By ". . . restorying *Melanie's* experiences as a transgender music educator [the researcher hoped] to cultivate a more empathetic attitude towards students who identify as transgender" (p. 31). The narrative cogently described stops on the journey to her becoming a music teacher, including "being compelled to constantly present as male" especially when working with children, and "considerable anxiety" (p. 36), and "negative reactions from peers" (p. 37). However, not all stops along the way were negative; her college choir director ". . . agreed to let *Mel* wear a dress for the concert season" (p. 37). The researcher's intent was

manifest, "hop[ing] . . . that *Melanie's* story raise[d] questions and offer[d] potential solutions for those endeavoring to create safe spaces where transgender students may engage in meaningful . . . experiences" (p. 44).

Roxas (2011) asserted that the United States was the largest resettlement country in the world for refugees. The integration of these new, and often trauma-affected learners into a school setting, is critical for their imbrication into the broader culture. The ". . . creation of strong, vibrant communities can result in positive academic and social outcomes for students" (p. 2). The integration of refugee students into learning "communities" is recounted in his case study narrative of Pat Engler, a middle-school teacher at a newcomer center for refugees, in Denver, CO. The centers are ". . . designed to serve English language learners identified as having limited or interrupted education as well as minimal literacy skills" (p. 3). Additionally, their refugee journey has produced ". . . a life in constant transition, students sometimes feel lost, alone, and unsupported by their teachers, classmates, [and are sometimes] confused by their new schools' environment" (p. 4). Many of these new students deal with or have dealt with acute poverty, depression, and loneliness, all markers of trauma.

Using multiple, semi-structured interviews, field notes, classroom observations, formal interviews, notes from informal discussions, and talks with social workers, Roxas analyzed the data for common themes and patterns and reported the findings via a case study method. The findings were mixed. One positive outcome, that an "important strategy for teachers working to overcome roadblocks in . . . classroom community is to focus first on building community within the classroom walls" (p. 5). Two, that a teacher should make their students feel "welcome and cared for" and "encourage camaraderie

and teamwork" (p. 5). And third, the creation of a "curriculum that encouraged students to depend on one another for completion of schoolwork" (p. 5). Adversely, Engler has asked her students to openly "acknowledge and discuss past differences [between] ethnic groups within the class" (p. 5). However, this introduction of traumatic experiences into the classroom is contraindicated by much of the available scholarship (Finn, 2010; Maya Vakfi, 2019; NCTSN, 2018; SAMHSA, 2018).

Quantitative Research Methods

Holley and Steiner (2005) examined 121 college-level student responses to a questionnaire created to discover their "perspectives of 'safe' and 'unsafe' in the classroom environments" (p. 49). They described the classroom *safe space* as an environment ". . . that allows students to feel secure enough to take risks, honestly express their views, and share and explore their knowledge, attitudes, and behaviors" (p. 50). Their convenience sample was made up of bachelor's and master's level social worker students from the *Council on Social Work Education*. The questionnaire was developed to include questions related to whether ". . . they felt able and willing to raise controversial thoughts and opinions or share personal experiences that were related to the course material" (p. 53). Additionally, they were asked to rate (1 to 5) the "importance that students place on a safe classroom climate" and "if a safe class environment changed *how much* they learned (p. 50). Ninety-seven percent reported that it was "extremely important" (p. 55) to learn in a safe space, and stated they ". . . learn about others' ideas, perspectives, and thoughts; they learn about others' experiences or that others' experiences become more personal" (p. 55). Additionally, 88% ($n = 106$) had taken a class that they felt *safe* enough to ". . . raise controversial thoughts and opinions" (p. 54).

"Sixty three percent (n = 76) reported having taken at least one class in which they were not able or willing to raise controversial thoughts and opinions" (p. 55).

Juvonen et al. (2006) examined student insights into their safety and vulnerability in school. The study focused on 11 public middle schools (70 plus sixth-grade classrooms. The researchers found that the more classrooms were integrated (higher diversity) the higher the ". . . feelings of safety and social satisfaction" (p. 393). The 511 African American and 910 Latino students ". . . felt safer in school, were less harassed by peers, felt less lonely, and had higher self-worth the more ethnically diverse their classrooms were" (p. 393). Additional results, as recorded on the *Effective School Battery*, found that perceptions of safety in the classroom had an endogenic effect on the students in multiple areas, including *school safety* (x = .71.5), *peer victimization* (x = .82), *loneliness* (x = .85) and *self-worth* (x = 78.5) (findings are averaged between fall and spring semesters).

It was intimated that the "emotional effects of perceived threat are less painful or detrimental in diverse as opposed to nondiverse settings" (p. 398). Additionally, victimization by peers was less strongly associated with distress when students had few, as opposed to many, classmates of their own ethnicity" (p. 398). Presciently, the results asserted that "students belonging to numerical minority groups . . . attribute their plight to the prejudice of other people, but those who are in the numerical majority are more likely to blame themselves for their victimization" (p. 398).

Summation of Review of Literature Associated with Creating Felt Safety in Learning Spaces. The current investigation into a Texas-based non-profit's trauma-informed GED prep program is populated by adults that have existed in unsafe and dangerous settings. This has provided a caustic learning environment for many of them. To circumscribe access to perceived protection in learning spaces harms educational outcomes. This research's participant population daily faces security issues related to either bodily or emotional harm. Many of these students deal with or have dealt with acute poverty, depression, and loneliness, all markers of trauma (Dutro & Bien, 2014; Finn, 2010; Hambrick et al., 2019; Kisiel et al., 2018; NCTSN, 2018).

Creating *felt safety* in learning spaces is an important trauma-informed literacy practice. This review examined children in Australia to garner their perceptions of safety in their school's spaces (Agbenyega, 2011), an adult transgender female navigating her journey toward a teaching certification (Bartolome, 2016), refugees in a Denver, CO welcome center (Roxas, 2011), college students were queried about specific classes where they felt safe and where they did not (Holley & Steiner, 2005), and middle-school students had their insights statistically analyzed regarding their safety and vulnerability in school (Juvonen et al., 2006).

This section's review, as in previous sections, has included a multiplicity of participants and learning spaces to highlight the universality of the prescribed practice of seeking to create *felt safety* in the student's learning environment. Creating safe spaces and *felt safety* is a critical leaping-off point for educating trauma-affected students. Offering them a choice regarding where they feel best while learning could potentially have a positive effect and is a research goal being addressed by the current project. Safe

learning environments are not always centered in a specific location. Places of learning can be varied. The participants in the current research project meet with their tutors at a variety of spaces; this can be the organization's offices, a local library, or a quiet spot in a restaurant or coffee shop.

The idea of *felt safety* predominates the Texas-based non-profit's trauma-informed GED prep program's processes. It is an effect of the program and not specifically designed by the researcher. Prior scholarship has taken up that question and the positive results are omnipresent (Baker, 2006; Carroll et al., 2006; Dods, 2013; Holley & Steiner, 2005; Jia et al., 2016; Juvonen et al., 2006; Krstic, 2015; Livingstone et al., 2014; Medley et al., 2017; Purvis et al., 2007; Terada, 2019; Venets, 2018; Wang et al., 2016). The current research complements that body of work.

Cumulative of all Literature Associated with Trauma-Informed Literacy Practices

The summation of literature associated with the trauma-informed literacy practices, strong student-teacher relationships, and creating *felt safety* in learning spaces, encompassed both qualitative and quantitative research. It provides a synthetization of work found in peer-reviewed journals prominent in many academic fields including psychology, education, early childhood studies, and social work. The review encompassed an array of learning spaces as well. The researcher evaluated literature related to college-level students and their perceptions of what felt safe and unsafe and how much they learned in optimally safe spaces. Elementary school children in the United States, where a high percentage of the students were classified at-risk and over 50% of the population failed to graduate, 4th-7th graders in Serbia, Sweden, where young adults faced the possibility of attenuated academic futures due to previous school-related

failures, and 15-18-year-old black youth in Canada. The journey of a transgender teacher across multiple learning spaces and many years was examined to develop theories associated with *felt safety* for students facing potential discrimination based on preferred gender roles and how they dealt with both positive and negative scenarios. Middle school students, especially African Americans and Latino's were surveyed regarding their "feelings of safety and satisfaction (Juvonen et al., 2006, p. 393). Additionally, young children were investigated to garner impressions on their developing sense of what constituted a safe or unsafe environment. Further, an investigation of newcomer centers, in Denver, CO public schools, referenced the necessity of classroom integration for students as it provided a model for broader cultural and economic integration with the community (Agbenyega, 2011; Backman et al., 2012; Baker, 2006; Bartolome, 2016; Brok, et al., 2004; Brunzell et al., 2016a, 2016b; Denscombe, 1998; Dods, 2013; Dutro & Bien, 2014; Finn, 2010; Frelin, 2018; Hambrick et al., 2019; Holley & Steiner, 2005; Juvonen et al., 2006; Kerka, 2002; Kisiel et al., 2018; Korbey, 2017; Krstic, 2015; Livingstone et al., 2014; Maslow, 1943; Maya Vakfi, 2019; NCTSN, 2018; Perry & Szalavitz, 2017; Purvis et al., 2007; Roxas, 2011; Schwartz, 2019; Souers and Hall, 2018; Staufenberg, 2018).

Constructing a set of techniques for positive student-teacher interactions can increase academic engagement and decrease disruptive behavior (Terada, 2019). "Trusting relationships between teachers and students . . . is essential to maintaining an effective learning environment" (Ennis & McCauley, 2002, p. 149). The current research allows the learner to make decisions regarding where they feel safe. This choice is a

critical locus of trauma-informed literacy. The reduction of stressful places or situations can aid in soothing the student and allow a more conducive learning atmosphere.

These ideas, strong student-teacher relationships, and attempting to create *felt safety* in learning spaces, are essential components affecting positive outcomes for trauma-affected learners. An assessment encompassing the effectiveness of the Texas-based non-profit's trauma-informed GED prep program would not be comprehensive without incorporating discussions centered on these two critical program factors. They are the heart of the intervention.

The reviewed research generates crucial insight into two of this investigation's main tenants, seeking the establishment of strong student-teacher relationships and the safe and productive integration of trauma-affected students into its Texas-based trauma-informed GED prep program. By creating safety in their learning spaces, whether in the nonprofit's office, a local library, or other appropriate spaces, a sense of *felt safety* can potentially allow for the laying down of their trauma, for a while, in a classroom conducive to perceptions regarding what is safe and to begin to learn.

Trauma-informed literacy is an emergent discipline (Wang et al., 2013). This investigation is unique as it fills gaps in research associated with the analysis of trauma-affected adult students and their *ged.com pretest* scores and diminishes the dearth of peer-reviewed research surrounding trauma-informed literacy and its concomitant practices. Berger (2019 in her systematic review of 13 published and unpublished studies of trauma-informed care in schools found little evidence of a sustained evaluation of trauma-informed programs and discovered "limited and no systematic review" (p. 650) of evidence created by these programs. This examination of a Texas-based non-profit's

trauma-informed GED prep program and its attendant use of trauma-informed literacy practices, as an intervention, is an attempt to quantify if teaching with kindness and caring for students while making sure they are not scared at school can create better educational outcomes. These specific trauma-informed literacy practices are an effect of the program and not specifically designed by the researcher. Prior scholarship has taken up that question and the positive results are pervasive. The current research complements that body of work. However, no scholarship has been located that attempts this with an at-risk population of trauma-affected GED prep learners that assesses their progress on key GED-related tasks. This research adds value to the field by quantitatively examining adult learners who have been traumatized as they work towards the goal of GED certification. The research assesses the efficacy of trauma-informed literacy practices and will provide a reproducible template for future researchers as they look for effect size in different populations or settings.

The next sections will provide a synthesis of key findings associated with an amalgam of research methodologies: qualitative, quantitative, and mixed methods research.

Andragogy & GED Programs

"I have more confidence and I don't feel ashamed anymore. Now I can tell people that I

struggle with reading and writing. And now I can read a book and do a little bit of

writing" (Steve's Story).

Andragogy

Andragogy has been described as the "art and science of helping adults learn" (Knowles, 1988, p. 43). It is learner-centric and in contrast to pedagogy which focuses on teacher-dominated learning spaces populated by children and adolescents (Bartle, 2019; Knowles, 1988). Knowles (1988) contended that adult life experience provided significant knowledge from which to build instruction. Bartle (2019) argued that adults could interact with the instructor to craft the most suitable path toward their ultimate literacy goals. This dynamic "democratic involvement" (Carlson, 1989) with adult students rests at the heart of this research project. Learners who have faced trauma need trusting student-teacher relationships [that] play a critical role in supporting their learning and well-being (Dods, 2013; Ennis & McCauley, 2002). However, this does not necessarily mean teacher-dominated. The teacher becomes a benevolent guide helping the adult learner with specific developmental needs that are self-directed and, within an appropriate time, the responsibility of the adult student (Hiemstra & Sisco, 1990; Knowles, 1988). "Developing human capital" is vital to "bring[ing] about change in economic, social, and educational issues (Chan, 2010; Merriam et al., 2007). Andragogy provides a pathway to that development. It has been connected to a variety of fields such as business, industry, government, and the health care profession; with applications in colleges and universities, professional development and training, and adult remedial

education (Knowles, 1984). Its use in learning environments where adults are seeking their GED certification is of interest to this investigation.

Birzer (2004) proposed several principles linked with andragogy developed for adult learners in the criminal justice system. Two have significant correlations with the trauma-informed practices discussed previously. One, creating a space that is both physically and psychologically safe, and two, "the instructor work[ing] closely with students" to reach their goals (p. 29). Each of these mirrors its concomitant tradition in trauma-informed literacy which focuses on creating *felt safety* and the formation of strong student-teacher relationships to facilitate learning (Holley & Steiner, 2005; Korbey, 2017).

Adult learners seeking their GED certification are coached in tenants associated with andragogy, a cooperative learning environment, mutual planning, and the development of a curriculum based on the needs and interests of the adult learner (Bartle, 2019; Knowles, 1980). A review of the literature associated with GED programs will better illuminate parallels between key points explicated in this research; the use of trauma-informed literacy practices, the overlapping of those practices with the dominant principles of andragogy, and the interweaving of both into GED programs in the United States.

GED Programs

The General Equivalency Diploma (GED) has been available to learners since 1942 (Zajacova, 2012). The GED was designed to help persons who had left high school to join the military during World War II (Meeker et al., 2008). "For people who are no

longer an appropriate age to enroll in high school, pursuing the GED credential is the best

path" forward (study.com, 2020). The National Center for Education Statistics (NCES)

(2018) reported that across the United States in 2013, 816,213 persons took GED exams

with a pass rate of 75.7%. In Texas that same year, 58,235 students sat for the exam with

73.5% receiving their GED certification (NCES, 2018). These numbers are set against

approximately 485,000 students who drop out of high school each year (McDermott et

al., 2018). "[T]he U.S. Census Bureau (2012) reported that approximately 12% of adults

ages 45 to 64, and nearly 24% over 65, had not earned a high school diploma" (Brinkley-

Etzkorn, 2016, p. 17). Why are such large numbers of students leaving school and

seeking their GED certification?

Meeker et al. (2008) reported that multiple factors existed for non-completion of

high school, among them pregnancy, dysfunctional home or school environments, work,

substance abuse, family illness, legal trouble, language barriers, and discipline issues.

Neighborhood factors such as poverty and instability are recorded as well (McDermott et

al., 2018). Each of these components has been registered previously as trauma-related

and each places the student at risk for truncated educational outcomes (Dutro, 2019;

Emdin, 2016; Frelin et al., 2018; Kerka, 2002; McInerney & McKlindon, 2014; Siegel &

Bryson, 2012).

Search Results

Andragogy or adult learning is well represented in the literature. A search for

"andragogy" via JSTOR, on January 10, 2021, returned 759 results. The search was

reduced to 401 when bounded by the years 2000-2021. A further reduction was done

when searching both "andragogy AND GED to 35. These results were further reduced by

querying only education-related journals. An evaluation of titles and reviewing abstracts further reduced the number. Acceptable articles were stored in an Excel spreadsheet. Entries were reviewed and those with like research parameters are reviewed here. The next sections will provide a review of the literature existing at the intersection between adult learning and GED programs.

Presentation of Research Associated with Andragogy and GED Programs

Qualitative Research Methods

Brinkley-Etzkorn (2016) examined "challenges and solutions encountered by Adult Basic Education (ABE) programs . . . serving older adults seeking a GED credential (p. 16). Her investigation sought to answer questions related to the needs of older students, such as ". . . how do GED programs promote the success of their older students?" and "what are the future service needs of GED programs with regard to this population" (p. 16)? She performed 55 (16 men & 39 women) face-to-face semi-structured interviews across multiple (35) U.S. states and the District of Columbia. The investigation affirmed a rise in the average age of GED seekers due to "a greater need for individuals to learn increasingly advanced technologies" (p. 17). She noted a "digital divide" that existed between younger students and their more aged classmates and that "age-related issues . . . may prevent older students from entering the classroom" (p. 18). The research's discussion portion focused on aspects such as, what is considered "older?" Though the term is usually seen as relative it was asserted that the "distinction between student age groups . . . becomes noticeable" (p. 23) with the $M = 39.4$ years of age. Additional focus was given to questions centered on the efficacy of programming. "What works and what doesn't" (p. 24). Ninety-five percent of participants requested continuous

student progress reports centered on standardized testing, such as the TABE or the

Comprehensive Adult System Assessment System (CASAS) (p. 24). Also, students

advocated for "small staff or instructor-led classes of up to fifteen students, with

additional open lab time for self-paced instruction and practice" (p. 25). However, others

felt "a large class was ideal . . . because students did not feel as if they had a "spotlight"

on them" (p. 25). Further, there was traction around the idea that instruction should be

created highlighting the student's past experiences and strengths. This concept closely

aligns with the investigation's current practice of creating specialized *educational*

journeys for each GED student. Finally, 90% of the interviewees reported the necessity of

"community organizations and local programs" (p. 26) in their continued growth.

The idea that one can dream beyond the GED lies at the heart of Bridwell's

(2012) study of "six low-income and homeless women of Color pursuing their GED in a

shelter-based literacy program" (p. 127). This program was centered "in one of Boston's

most economically depressed neighborhoods" (p. 132). This type of group "often

regarded as marginalized by race, class, and gender may [also] experience growth in

epistemological complexity in environments [that are] transformative [and] learning

goals are purposively supported" (p. 127). She queried "How do low-income and

homeless women of Color construct knowledge and make meaning of education in their

roles as learners" (p. 128). Narrative descriptions were used to describe the participants

and their educational journeys. Purposeful sampling identified 6 "American-born,

English-speaking African American women . . . 20-41 years [of age] . . . [with] one to

five children" (p. 133). Two of the women lived at shelters while the other four lived in

subsidized housing. The researcher used two instruments to collect data, *The Adult*

Development Project Experience of Learning Interview and the *Subject-Object Interview*.

There were 3 groups of findings: One, "dreaming beyond the GED . . . [which

concentrated on] promoting self-advocacy skills . . . building self-esteem, self-awareness,

self-care, and leadership skills" (pp. 135-136). Two, which focused on ways of knowing,

and found that some of the women developed "self-authoring" (p. 137) abilities. And

three discussed the "construction of knowledge" (p. 137). Overall, the investigation spoke

to the program's ability to instill "individuals with more complex systems for making

meaning" (p. 141).

Quantitative Research Methods

Other research focused on correctional spaces was performed by Alewine (2010)

and examined the educational experiences of inmates that took part in a mandatory

Federal Bureau of Prisons GED program. The research sought to test the efficacy of pre-

program orientations on a treatment group with no orientation given to the control and

"test whether oriented students were more emotionally prepared to perform cognitively

than the control group" (p. 10). The treatment concentrated on inuring emotional

readiness and sought to manage classroom behavior. All participants were male inmates

($n = 24$) in a prison in Kentucky. The research was a quasi-experimental post-test design

that hypothesized "that there was a significant difference between andragogically

oriented students and nonoriented students" (p. 9). Using a self-reported *Personal

Outcomes Measure* (POMS) the authors measured the learners' "mood states, and mean

values of off-task classroom behaviors" (p. 9). "The orientation attempted to manipulate

the classroom ethos to a positive mood persuasive in the classroom environment" (p. 9).

The treatment was driven by the desire to make the "GED classroom setting as

emotionally supportive as possible" (p. 12). Additionally, it "focused on contextualizing learning, . . . [asking] how a GED could benefit them economically, [and highlighted] how their participation immediately benefitted loved ones" (p. 12).

The data were analyzed using a nonparametric *Mann-Whitney U* test which ranked the values of both the treatment and control groups. Results found that "There was no significant difference in total POMS mood disturbance values between oriented students and nonoriented students" (p. 20). This was repeated in other evaluated areas as well including those measuring tension-anxiety, depression-dejection, or confusion-bewilderment (p. 20). However, "the analysis of the student electronic record demonstrated significant difference in behavior between the control and treatment groups" (p. 16) allowing the author to posit "In terms of negative behavior, the orientation was a statistically significant contribution to improving classroom ethos" (p. 16).

Nuttall et al. (2003) measured the recidivism rates of New York State Department of Correctional Services (DOCS) inmates who had achieved their GED certification while incarcerated and those who did not reach that goal. "All inmates released for the first time in 1996 from DOCS due to parole release, conditional release, or maximum expiration of sentence were selected for inclusion in the study" (p. 91). Releasees were tracked for 36 months following exit from their perspective prison. The results were encouraging. Thirty-two percent of persons earning a GED certification returned to lockup while 37% of those without did. The findings "argued that those inmates who successfully earned a GED were more motivated or competent than those who did not

participate in or complete a GED program and that this factor is related to their future

success on parole" (p. 93). Further, the

> ". . . return-to-custody rates of the inmates who earned a GED and those who did
>
> not, a chi square test was utilized to determine if this difference was statistically
>
> significant. It was found that the difference in return rates between inmates who
>
> earned a GED while incarcerated at DOCS and those with no degree was
>
> statistically significant (p < .001) for both the total 1996 release cohort and the
>
> cohort of offenders under age 21 at release" (p. 92).

Mixed-Methods Research Models

Moeller et al. (2004) sought out the perceptions of 16 male inmates, ages 18 and

up, on their correctional education and environment" (p. 40) at a correctional facility in

Illinois. The inmates were randomly selected from the institution's GED (academic

ranges from the 6-12.9 grade levels) and ABE (academic ranges from 0-6 grade levels)

programs. The learners were given a self-administered questionnaire comprised of five

topics: background information, curriculum, classroom interaction, and environment and

feeling about school. There was no time limit for completing the questionnaire. Overall

results indicated ". . . that [the] students were satisfied [and that] they placed importance

on the current educational system" (p. 48). Additionally, the "students . . . underst[ood]

the connection between education and success in life" (p. 54). Quantitative data informed

that reading and math skills were judged the most important and 40% asserted that life

skills were rated of little importance. Additional results regarding classroom resources

opined that textbooks and dictionaries as well as having worksheets in class enhanced the

quality of learning. Qualitative data revealed that 60% of inmates "were comfortable with

the classroom" and "said it was because of their teacher and the help they received from him or her" (p. 51). Other student-led suggestions focused on "more room", "more time", and that "more books and computers" were needed (p. 51).

Summation of Review of Literature Associated with Andragogy and GED Programs

Andragogy programs, such as GED certification courses, can provide access to empowerment for at-risk learners, and their families, as well as enhancing opportunities for socioeconomic and sociocultural growth. Many adults see "literacy programs [as] a desperate hope to finally improve their education and begin to make essential changes in their lives" (Horsman, 2004, p. 130). (Alliance for Excellent Education, 2008; Chapman et al., 2011; Emdin, 2008; Fukuyama, 2010; Hernández, 2012; Jensen, 2009 & 2013; McInerney & McKlindon, 2014; McLaren et al., 2009; Montoya, 2018; Newkirk, 2009; OECD, 2013; Wilkinson & Pickett, 2009).

This literature review provided insight into research associated with andragogy and GED programs. The challenges encompassed in the reviewed literature are the challenges of this study's population. Reviewed projects included a discussion of agism in GED students in Washington D. C., (Brinkley-Etzkorn, 2016), and a synthetization of Bridwell's (2012) research on women of color in Boston area shelter programs, seeking to intuit how they constructed knowledge while progressing in their studies. An assessment was undertaken regarding correctional education with studies concerning attempts to predetermine classroom environments and behavior by providing inmates with an orientation highlighting the prison's GED setting and goals (Alewine, 2010), surveying inmate learners on multiple program factors, especially their "understand[ing] the connection between education and success in life (Moeller et al., 2004, p. 48), and

more broadly, assessing the recidivism rates for prisoners engaged in GED learning and those who were not (Nuttall et al., 2003).

The current research project is comprised of adults seeking advancement, academically, economically, and socially, via a Texas-based non-profit's trauma-informed GED prep program. The evaluated research in this section is closely connected with the daily lives of the participant population. They are or have been, homeless, they are frequently former prisoners attempting to start or restart their lives, and perhaps most prominently, they frequently feel too old to start or start again; no matter how much they know they need to.

The present research examines the *ged.com pretest* scores of trauma-affected students in a Texas-based non-profit's trauma-informed GED prep program. It seeks to evaluate the application of trauma-informed literacy practices on outcomes for this disenfranchised population. The reviewed scholarship is awash with examples of what the status quo in andragogy looks like; aspiring learners subject to agism, prison, discussions of recidivism, and whether poverty-stricken women can even understand that they are lacking in the skills necessary to dig themselves out of their predicament. The current investigation, in evaluating a Texas-based nonprofit's trauma-informed GED prep program, seeks to ramify benefic practices and hopes to provide a template for a better way forward. This research adds to discussions seeking to provide answers regarding the program's learning environment (as an intervention) as a possible new way forward for andragogy and GED prep programs. The research model provides a template for examining the efficacy of other like programs.

The next section will provide a summary of the literature reviewed as well as providing an analysis of gaps in current scholarship and explicating the current investigation's goal of creating positive outcomes for future trauma-affected learners using trauma-informed literacy practices.

Summary

This investigation focuses on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional, physical, and sexual abuse, neglect, homelessness, and poverty. The Texas-based non-profit's trauma-informed GED prep program concentrates on non-traditional and marginalized students who may have been exposed to traumatic event(s). Additionally, this research is fixated on trauma and complex trauma and its effects on learners seeking to move through a diversity of classroom environments towards educational empowerment.

The purpose of this systematic literature review has been the uncovering of research outcomes, practices, or applications related to the overarching purpose of the study. The goal has been to critically analyze literature identifying strengths, weaknesses, and gaps in prior research. The evaluation is driven by the research question which asks whether a Texas-based non-profit's trauma-informed GED prep program, and its use of trauma-informed literacy practices, had any effect (Cohen's *d*) on the participants' *ged.com pretest* scores.

The review focused on four areas of research: trauma-informed literacy at the system or program level, trauma's effects on the learning, trauma-informed literacy practices specific to the manifestation of strong student-teacher relationships and creating

felt safety in learning spaces, and finally an overview of both andragogy and GED programs. Each of the reviewed investigations provided insight into the complexity, distribution of, and omnipresence of trauma-affected students and attempts being made, at both the system and classroom level, to mitigate those effects via positive interventions. There are many similarities between the reviewed populations; persons living in poverty, those who have been witness to violence, students that have been chronically abused, (sexually, physically, and emotionally), and those facing homelessness or natural disasters. They mirror the population of trauma-affected learners in the Texas-based non-profit's trauma-informed GED prep program. Trauma and its effects are rampant in sociocultural and socioeconomically disadvantaged populations, and their effect on learning is universal and does not discriminate, as has been shown in this review, based on age, sex, or geography.

Trauma truncates outcomes for learners of all ages and is inclusive of the diminution of both sociocultural and socioeconomic life trajectories. Trauma's effects on learning and learners lie at the heart of this research. Adult learners who have faced traumatic events are often not able to reach adequate education levels and frequently face a lifetime of diminished outcomes as well as poor health and the lack of upward mobility (Dutro & Bien, 2014; Finn, 2010; Kisiel et al., 2018; McDermott et al., 2018; Meeker et al., 2008; NCTSN, 2018; Zajacova, 2012).

Maya Vakfi (2019) reported, "Trauma can affect . . . behavior and [the] ability to do well at school as well as the overall learning environment for other students if not addressed properly." (p. 5). Trauma's effects on learning are well established in the literature and disputing this is not a goal of the current research project (Clemens et al.,

2017; DePedro, 2011; Dutro, 2019; Emdin, 2016; Flaks et al., 2014; Franklin & Streeter, 1995; Frelin et al., 2018; Gaywish & Mordoch, 2018; Kerka, 2002; McInerney & McKlindon, 2014; Medley et al., 2017; Powell, 2018; Siegel & Bryson, 2012).

Attempts to work with struggling (trauma-affected) learners often end when they exit K-12 learning or a concomitant youth-based education system. Adults are usually left to their own devices and frequently struggle to fit into existing higher-education models. The Texas-based non-profit's trauma-informed GED prep program sets itself apart as its program/intervention offers systemic and pervasive trauma-informed instruction throughout its trauma-affected adults on their journey towards GED certification. Its program is driven at the systems level by trauma-informed literacy best practices.

Classrooms, both nationally and internationally, are in critical need of trauma-informed literacy interventions to better empower learners. Students across the planet are daily exposed to trauma and millions are living with the consequences of abuse, neglect, poverty, and homelessness. Many teachers face the challenges of educating trauma-affected students, students who present a range of symptoms and behaviors including attention-deficit hyperactivity disorder (ADHD), peer bullying, school refusal, conduct, and oppositional defiance disorders, distracted or aggressive behavior, limited attentional capacities, poor emotional regulation, and/or hypervigilance. Teachers need toolkits to better soothe trauma's effects on the learning process and the learner. Trauma-informed literacy practices, specific to strong student-teacher relationships and creating *felt safety* in learning spaces, are well documented in the literature and this research does not attempt to dispute previous findings (Brunzell et al., 2016a, 2016b; Ennis & McCauley,

2002; Korbey, 2017; Livingstone et al., 2014; Maya Vakfi, 2019; Schwartz, 2019; Terada, 2019).

Gaps in the Research. There are many similarities between the reviewed populations and the population of trauma-affected learners in the Texas-based non-profit's trauma-informed GED prep program. Trauma and its effects are rampant in sociocultural and socioeconomically disadvantaged populations, and their effect on learning is universal and does not discriminate, as has been shown in this review, based on age, sex, or geography. To date, there has not been a study the examines, statistically, the effects of trauma-informed literacy practices on adult trauma-affected GED learners and their *ged.com pretest* scores. An exhaustive review of the literature has not provided parallel work of this nature. This research is focused on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional, physical, and sexual abuse, neglect, homelessness, and poverty. This program focused on non-traditional and marginalized students who, in the past or while enrolled in the Texas-based non-profit's trauma-informed GED prep program, faced traumatic events. The dearth of peer-reviewed research surrounding trauma-informed literacy and its related practices highlights the efficacy of the current research; research that fills a critical gap in scholarship associated with adult learners, in a Texas-based non-profit's trauma-informed GED prep program, that have taken part in trauma-informed literacy interventions.

Research Imperative. This research attempts to better illuminate the correlation between trauma-informed literacy practices, such as strong student-teacher relationships and creating *felt safety* for learning spaces, and positive outcomes for adults who are

trauma-affected. Positive results in this investigation may provide future trauma-informed

programs a template for educators working with at-risk populations. If the results do not

sufficiently support the research's premise and inform that trauma-informed literacy

practices do not correlate to positive growth in adult GED learning spaces, future

researchers may be able to adjust their modalities and seek more positive results. The

examination of a less rigid and less structured teaching method will provide new insights

into this type of trauma-informed literacy intervention. Further, this investigation

quantitatively measures, via statistical analysis of student *ged.com pretest* scores, the

efficacy of the program, a factor demonstrated as lacking in other program-level

evaluations.

Chapter Summary

This review of literature focused on pertinent research associated with topics

linked to trauma-informed literacy, provided definitions of trauma and complex trauma is

provided, along with a detailed exploration of trauma's effects on learning. A

comprehensive review was provided of trauma-informed literacy practices, with an

emphasis placed on student-teacher relationships and the creation of *felt safety* in learning

spaces. Additionally, literature associated with andragogy and general equivalency

diplomas (GED) practices in the United States were discussed as well. The next section,

Chapter 3, will provide detail of the methodology of this research.

CHAPTER III

Methodology

Introduction

An accurate and concise methodology lies at the heart of any research project. The careful crafting and reporting on its steps are critical to establishing validity as well as providing a potential path for future investigators seeking to reproduce or expand on the initial work (Duke & Mallette, 2011). This chapter includes an overview of the research design, introduces the participants, informs on the necessity of ethical research models and the protection of human subjects, discusses instrumentation, data collection, analysis, and limitations.

Purpose and Research Questions

Adult learners who have had traumatic experiences, either simplex or complex, face a raft of issues associated with reduced educational outcomes including but not limited to deficient economic outputs resulting in generational or situational poverty, homelessness, or constricted health possibilities. (Emdin, 2008; Jensen, 2009, 2013; McInerney et al., 2014; Newkirk, 2009). McLaren et al. (2009) labeled this diminution the "pauperization of the working class" (p. 55) and characterized this as being in opposition to critical literacy's quest for "universal liberation" (p. 55). These assumptions, discussed in detail in Chapter 1, firmly ground this investigation in critical literacy's theoretical sphere.

The research associated with trauma-informed literacy practices and learning space outcomes, either positive or negative, is sparse. Chapter 2 documented the dearth of reproducible scholarship where specific trauma-informed practices are used as interventions affecting outcomes in learning spaces. It is this paucity of academic research that communicates the necessity of this current project.

The Texas-based non-profit's trauma-informed GED prep program under evaluation focuses on non-traditional and marginalized students; students who have or are still facing abuse, both physical and emotional, neglect, and homelessness. Each of these stressors has been documented as having an adverse impact on the learning process (Alisic, 2012; Baker, 2006; Bilash, 2009; Baracz & Buisman-Pijlman, 2017; Borba et al., 2015; Breidlid, 2010, 2012; Briere & Scott, 2015). Additionally, this investigation informs on topics related to the efficacy of trauma-informed literacy practices such as strong student-teacher relationships and creating felt safety in the learning environments of adult GED students. It is the overarching purpose of this research to statistically assess the effect size (Cohen's *d)* of trauma-informed literacy practices, on student *ged.com pretest* scores for participants in a Texas-based nonprofit's trauma-informed GED prep program.

Research Design

This quantitative investigation will examine the role of trauma-informed literacy practices on adult GED learners, ages 18 and up, in a suburban area, adjacent to a large metropolitan center, in the southwest United States. The following sections will provide discussions related to the construction of this investigation's design model, including segments conversing on the creation of its research paradigm, its ontology and

epistemology, and how each was derived, the appropriateness of choosing quantitative research methods, quasi-experimental research design, Cohen's *d,* and effect size, paired sample *t*-tests, an ANOVA analysis, and convenience sampling as well as a one-group pretest-posttest design.

Research Paradigm, Ontology, and Epistemology

A methodology is determined by the construction of its research paradigm, in this instance, a quantitative analysis is prescribed as the researcher asks questions related to a single view of reality (Duke & Mallette, 2011; Kuhn, 2012; Pretorius, 2018). That single reality imposes a positivistic research paradigm formulated by its ontological and epistemological make-up (Pretorius, 2018). Arghode (2012) agreed, asserting that ". . . quantitative research is rooted in the positivist paradigm" (p. 155). A positivistic research paradigm queries: How do I understand knowledge? As a methodology, it can be used ". . . to explain and predict human action and social process" (Yu, 2016, p. 321). Majeed (2019) claimed that positivism is the "mathematization of social phenomena" that seeks to "decrease qualitative human experiences into quantified statistical figures" (p. 119).

Ontology informs on the nature of reality, in this research, one reality exists for the participants. Do trauma-informed literacy practices affect their *ged.com pretest* scores, for this set of individuals participating in a Texas-based non-profit's trauma-informed GED prep program, or do they not? Quantitative statistical analysis will provide an answer, for that moment in time and space, and offer a version of reality that has been measured with mathematical precision. Additionally, this analysis will be able to, possibly, forecast *like* results onto *like* populations (Yu, 2016). A quantitative epistemology complements the research paradigm, in this instance affirming that

"knowledge can be measured using reliable designs and tools" (Pretorius, 2018) or represent a "single truth" (Arghode, 2012, p. 157).

Quantitative Research Models

Quantitative research starts with a question and uses statistics to test its efficacy (Creswell, 2002; Pajo, 2018; Vogt, 2005). "The investigator identifies multiple variables and seeks to measure them" (p. 133). Quantitative methodologies are meant to ". . . test theories that predict the results from relating variables" and "the research questions . . . do not change during the study" (p. 133). Arghode (2012) argued that the ". . . researchers' goal is to quantify the participant responses and subsequently interpret them to make decisions" (p. 156). The choice of a quantitative methodology, for the GED prep program analysis, is appropriate as it seeks to statistically examine effects (Cohen's *d*) between two units; trauma-informed literacy practices and *ged.com pretest* scores.

Quasi-Experimental Research Design

This quasi-experimental research will be bounded by the following dates: October 21, 2016, and May 28, 2021. Pajo (2018) defined quasi-experimental as ". . . conduct[ing] some form of intervention, testing, modification, or manipulation and examine the results" (p. 106). Green et al. (2006) asserted that all quasi-experimental research designs should follow specific logic: One, that the treatment is applied before measuring its effects, two, that the treatment is related to the effect, and three, that ". . . no plausible explanation for the effect exists other than the treatment" (p. 540). Additionally, threats to validity must be addressed, Campbell and Stanley (1963) "defined internal validity as whether the experimental treatments make a difference in this specific instance" (p. 540). Threats to validity can include the following: One, ". . .

ambiguous temporal precedence" (p. 540) or a lack of clarity regarding variables confusing cause and effect. Two, ". . . differences over conditions in respondent characteristics that could cause the observed effect" (p. 540). Three, could an event be occurring at the same time as the treatment affect the outcome? Four, is it possible that ". . . naturally occurring changes over time" (p. 540) affected the observed outcome? And five, regression ". . . where units are selected for their extreme scores" (p. 540) can cause other outcomes to mimic the extreme reading.

One Group Pretest-Posttest Design

Green et al. (2005) recognized that a pretest-posttest design ". . . allows the researcher to examine whether people changed from before to after treatment" (p. 544). This research will use a one-group pretest-posttest design: O_1 X O_2 (Campbell et al., 1963; Ender, 2005) to assess the efficacy of trauma-informed literacy practices on the participant's *ged.com pretest* scores. An explication of the model and its association with this research's GED prep program evaluation is described in Table 1.

Table 1

One Group Pretest-Posttest Design

O_1	X	O_2
ged.com pretest: pretest	Treatment	*ged.com pretest*: posttest

Testing Processes. A more detailed explanation of the pretest-treatment-posttest process, as they relate to this research project, is given here for clarity. Each participant must pass 4 subject matter exams to achieve their GED certification. The GED program uses pretests located within the *ged.com* platform to assess the readiness of each student to eventually sit for an actual GED exam. Each learner must receive at least a score of 150 (this benchmark is set by the organization) out of a possible 200 on any *ged.com*

pretest to be deemed qualified to attempt an exam. Upon entry, to the GED program, a student takes a *ged.com pretest* in the subject of their choice: math, social studies, science, or reasoning and language arts (o_1). Their score determines their educational journey. If they score 150 or higher, they can sit for that subject matter exam. For this research, these individuals were excluded from the data analysis. If their score is 149 or below, they begin trauma-informed instruction (X) with a tutor until they are deemed sufficiently knowledgeable to retake the *ged.com pretest* (O_2) in that subject again, seeking a score of 150 or above. It is possible that a pretest-posttest design could expand to include multiple posttests (O_2, O_2, O_2 ...). This extended set of options is clarified in Table 2.

Table 2

One Group Pretest-Posttest Design *with Multiple Posttest Retake Options*

O_1	*ged.com pretest*: pretest: Seeking 150 or above
X	Treatment
O_2	*ged.com pretest*: posttest: Seeking 150 or above
X	Treatment
O_2	*ged.com pretest*: Retest seeking 150 or above
X	Treatment
O_2	*ged.com pretest*: Retest seeking 150 or above

Each participant is prepared for their individualized path to GED certification using the same trauma-informed literacy practices as well as being evaluated with *ged.com pretests*. It is unethical, due to the trauma-affected nature of the non-profit program's participant population, to use these practices for one student while denying it to others (Glen, 2020; Schwartz et al., 2019). Creating two, unequal, groups for

measurement would be unfeasible. Schwartz et al. (2019) concurred, characterizing quasi-experimental as being ". . . a research design in which you cannot randomly assign participants to your control and experimental groups" (p. 276).

For this investigation, each learner takes one of the four available ged.com pretests at enrollment. Some students do not have to take a second pretest if their initial pretest score is 150/200 or above the program does not ask them to take the test a 2nd time. This makes it difficult if not impossible to assign groups of students with any measure of uniformity.

Participants and Sample

Learning Space Context: Non-Traditional Learning

All participants are currently, or have been, in the past (within 6 years), enrolled in a Texas-based non-profit's trauma-informed GED prep program, adjacent to a large metropolitan center, in the southwest United States. This organization's program provides a non-traditional and flexible path towards GED certification. Its staff, inclusive of the executive director/program manager and tutors, are trained in trauma-informed literacy practices before working with learners.

Participants

The participants were selected for the investigation based on enrollment in the organization's trauma-informed GED prep program. Each potential student contacts the organization in a variety of ways. Some are referred from collaborating entities based in the same locale, some through internet searches, and others via word of mouth. All persons contacting the organization are deemed potential GED prep program students. Through the evaluation processes (see below) some students are ascertained to be not

viable for the GED prep program. This is usually related to informing of prior significant learning disabilities, not trauma-related, or acute foundational learning issues. Hanford et al. (2013) asserted that the GED exam is written on a 9th or 10th-grade reading level. Students apprising, during the initial interview, of poor reading or math scores in prior schooling are administered the Test for Adult Assessment (TABE) to establish reading and math grade levels (TABEtest, 2020). Students measuring below the 8th grade level in math and reading assessments are not included as GED program participants. To attain adequate statistical power there must be at least 41 participants *ged.com pretest* scores, both pretest and posttest, available for analysis.

There were 60 total participants, who met the criteria, ranging in age from 17 to 63 years of age. 19 were males and 38 were females. The participants, when such data was available, had their highest progress through the U.S. K-12 system recorded. The highest grade attained by each student is based on standard U.S. K-12 designations and is detailed in Table 3. The right column reports on the number of participants in this research that reported the highest grade attained in the American school system.

Table 3

Highest Grade Attained

Highest Grade Attained (K-12)	Number of Participants
12th grade	8
11th grade	14
10th grade	15
9th grade	3
Below 9th grade or not reported	19

All GED students were classified as adults, at least 18 years old or 17 years old with a court order or parent or guardian permission. Each had been exposed to at least one traumatic experience, but often ongoing or complex trauma. Collaborating service organizations, referring students to the Texas-based non-profit organization's trauma-informed GED prep program, are uniform in their mission to assist only low-to-moderate-income persons as well as a person in acute distress. Walk-in students are screened for annual income denoting their socioeconomic status. This might include but is not limited to aging out of the foster care system, refugee displacement, sex trafficking, and generational or situational poverty. "Early life adversity is a major risk factor for the development of psychological and behavior problems later in life" (Baracz & Buisman-Pijlman, 2017). This exposure to either simple or complex trauma has been linked to truncated educational outcomes and possibly affects their ability to learn (Dutro, 2019; Emdin, 2016; Frelin et al., 2018; Kerka, 2002; McInerney & McKlindon, 2014; Siegel &

Bryson, 2012). This trauma sometimes takes the shape of abuse, both physical and verbal, neglect, poverty, and homelessness, or the risk of homelessness.

Convenience Sample

The participants will consist of a convenience sample. There will be no control group. Pajo (2018) described convenience sampling as allowing the researcher to select any available participants for the study. And that "participation happens by availability and accident" (p. 141). Vogt (2005) echoed this assumption stating that "A sample of subjects [are] selected for a study not because they are representative but because it is convenient to use them" (p. 62). Convenience sampling is the "opposite of probability sampling, where participants are randomly selected, and each has an equal chance of being chosen" (Glen, 2020).

Data Collection Procedures

In the next section, details will be provided elucidating the enrollment process, participant selection, pretest, and posttest procedures, and criteria.

Step 1: Selecting Participants and Entry into the Program

Enrollment in this study is predicated on the participant's entry into the nonprofit's trauma-informed GED prep program. Clients are asked, via a new client intake form (NCIF), if they agree to participate in research while attempting to gain GED certification. All participants selecting *no* upon enrollment are excluded from further research. They meet individually with the trauma-informed GED prep program's program manager (PM) to have their interest in obtaining a GED certification verified. This initial interview is usually at a place chosen by the potential student. Agreeing on a time and place of their choice helps create a sense of self-determination in their upcoming

educational journey and aids in creating felt safety regarding their future learning environment. Creating safety within a trauma-informed framework far exceeds the standard expectations of physical safety (e.g., facility, environmental, and space-related concerns), providers must be responsive and adapt the environment to establish and support the clients' sense of physical and emotional safety (Center for Substance Abuse Treatment (US), 1970).

Each student has the initial steps for entry into the program explained to them in detail, visually if necessary. The PM will sketch out process flows for the student to aid in their understanding of expectations and steps. The initial interview is conducted with multiple potential students only if all students concerned agree. All efforts are made to minimize anxiety and stress to the student. Each learner is asked for their email address. All students must have an active email address to become enrolled in the program. They are informed that they will be sent a welcome email with the next steps in the process; this is to verify their email address. Each student must create a *ged.com* account to obtain their GED certification; *ged.com* houses the assessment pretests (explained further below) used for determining an enrolled student's study path towards certification.

Step 2: Pretest and Posttest Procedures and Criteria

The entirety of the trauma-informed GED prep program is carefully explained to each incoming student. They receive information regarding each of the 4 GED exams. The exams are stand-alone. There is no mixing of subject matter on any examinations. This allows the student to focus on one subject area at a time. Approaching each exam separately helps students focus their energies, enhances good study practices, and boosts confidence.

Upon verified creation of a *ged.com* account, the PM loads (*load* is defined as the organization paying fees associated with pretests or exams) 1 of the 4 subject area pretests to the student's *ged.com* account. The subject area the students feel most comfortable with is established from conversations between PM and the student during the initial interview. When a pretest is loaded an email is automatically sent from *ged.com* to the student informing that their pretest is available in their *ged.com* account. They must log in to take the pretest. The student is asked to take the pretest in a quiet place. The student is instructed not to take the pretest on a smartphone. They are asked to notify the PM when completed. If the student scores 150 or above, they are scheduled to sit for the GED exam in that subject matter area and will no longer be considered for research in that subject area. A score of 150 or above demonstrates subject matter knowledge at a sufficient level to pass the GED exam. A score of 145 out of 200 is passing. The organization sets its threshold for exam attempts at 150. This allows for variations in the exam or testing conditions.

If the participant's score is 149 or below, they are scheduled for additional exposure to the treatment until it is deemed appropriate for retesting/posttest (see Tables 1 & 2, pp. 151 & 1525). The above procedure, without the initial interview and enrollment procedures, is repeated when it is determined by the PM or the student's tutor that they are prepared for additional subject matter testing. The process flow is explicated in Figure 2.

Figure 2

Process Flow for Diagnostic Testing
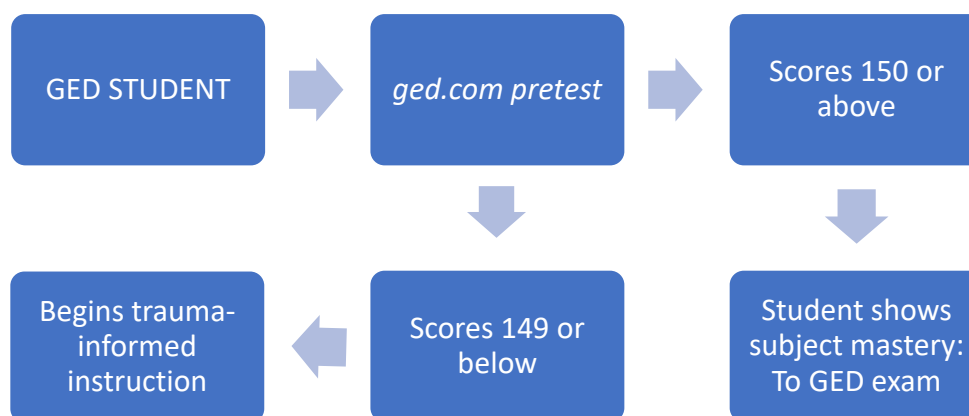
All students entering the organization's trauma-informed GED prep program are asked to take 1 of the 4 available subject area-math, science, social studies, or reasoning through language arts pretests. The pretest is housed within their *ged.com* account; *ged.com* is operated by Pearson. A breakdown of each subject matter exam is contained in Appendix A.

Students can take the pretests at a place of their choosing. It is suggested that they choose an environment that is conducive to testing such as the organization's offices, a public library, or a quiet place in their homes or workplace. They are asked to be able to set aside the required time, described in Appendix A, and not stop and start the pretest. The pretests are not proctored. They are informed that the pretest is not used in a pass/fail context but to guide further instruction.

Established Validation of Instrument. Pearson, a British-owned education publishing and assessment service to schools and corporations, (Pearson, 2020) has made available statements regarding the validity and reliability of the testing products. Their GED test was revised three times between the 1970s and the early 2000s. In 2014, the test

underwent a significant revision and Pearson has made available statements regarding the validity and reliability of the testing products (Pearson, 2018). A 2014 review informed on the methods associated with their testing. Reliability evidence was offered in terms of internal reliability (Cronbach's alpha) and standard errors of measurement. "Cronbach alpha for Mathematical Reasoning (.83-.88), Reasoning and Language Arts (.81-.81), Science (.76-.81), and Social Studies (.75-.80) were obtained for each test form" (p. 11). The Unidimensionality of each content area was examined. Evidence related to fairness came from analyses of differential item functioning, which indicated a possible bias for individual items. "Root mean squared errors were below .06, and most values for the comparative fit index were greater than .95" (p. 11). Items were flagged for further review based on a combination of effect size and statistical significance, and the Benjamini–Hochberg procedure was used to adjust p–values to account for multiple testing (Pearson, 2018).

Step 3: Implementing Treatment Measure

Pretreatment: Trauma-Informed Training. The organization trains its staff with trauma-informed training modules created in-house by its executive director. The executive director is also the GED program manager focusing on trauma-informed literacy outcomes and is this research's principal investigator. The modules cover topics such as W*hat is trauma?* which presents definitions of trauma, who trauma affects, and the psychological and physiological burden on learners, including emotional and physical triggers. *What is Trauma-Informed Learning? w*hich converses on the system-level influence of trauma-informed interventions in learning spaces, current international proponents, and its implications in andrological spaces. The *Trauma's Effects on*

Learning module examines cognitive issues, among them a student's proclivity for not

engaging in higher-order thinking, diminished memory, an inability to understand cause

and effect, an inability to engage in abstract thought, and diminished cause and effect

skills. This module also informs on a learner's inability to become engaged in school,

show appropriate social skills, and form suitable attachment styles. Further, it advises that

students are also more likely to: Fail a grade, face repeated discipline issues, or leave

school before completion. Additional modules cover *Secondary Trauma*

Stress/*Compassion Fatigue*, and *Poverty' Effects on Learning*.

      All onboarding staff is trained in trauma-informed practices, especially the

creation of a strong student-teacher relationship, generating a sense of felt safety for each

student, and making the learning environment flexible to their specific educational

journey. The organization has, over the past 6 years, employed volunteer tutors with

varying levels of teaching skills. However, a large portion of GED instruction and the

concomitant application of trauma-informed practices has been conducted by the

executive director/program manager. This has ensured that the treatment has been equally

applied across the participant population. Learning spaces could be but are not exclusive

to, library spaces, the organization's offices, virtually, or, at times, incarceration spaces.

With the advent of COVID-19 in 2020, portions of instruction migrated to the *Zoom*

online platform.

      Treatment. In a quasi-experimental one-group-pretest-posttest, measurements are

taken both before and after treatment. The design implies that researchers can see the

effects, or absence of effects, of some type of treatment on a group (*Experimental design*

n.d.; & Vogt, 2005). It is the intimation of this investigator that the current research

question: What effect, if any, does the use of trauma-informed literacy practices have on multiple adult GED student's *ged.com pretest* scores in 1 or more of *ged.com's* 4 subject matter areas (math, reasoning, and language arts, social studies, and science) as they progress towards their GED certification in one Texas-based non-profit's trauma-informed GED prep program, is best measured in this way. It allows the researcher to gain a deeper understanding of how the treatment, trauma-informed literacy practices, might affect test scores on the organization's instructional diagnostic tool the *ged.com pretest*. By testing participants, before and after treatment, it can with reasonably assumed, taking into consideration threats to validity, that their scores are, positively or negatively affected by the treatment.

The treatment, trauma-informed literacy practices associated with strong student-teacher relationships, and the creation of felt safety, are contained within the program's processes. Each student is exposed to these tenents during each step in the nonprofit's program. The researcher asserts that exposure to the intervention starts with entry into the program and is pervasive throughout.

Archival Data. An application will be made to Sam Houston State University's Institutional Review Board (IRB) for permission to conduct the research. This investigation will rely solely on archival data previously collected by the organization. Archival data, in this instance, will be previously collected *ged.com pretest* scores of learners enrolled in the organization's GED prep program. Data has been collected solely by the organization's executive director/program manager. Pretest scores were downloaded from *ged.com* and stored in a master folder with participant names noted and subsequentially anonymized for future analysis. An *Excel* spreadsheet with pretest scores

will be saved in an additional digital file within the master file. All participant names in the spreadsheet will be given a pseudonym to protect their identity.

All *ged.com* testing data gathered for this research was collected by the organization. Duke & Mallette (2011) described archival data as artifacts collected as "evidence of literary instruction, learning, or practice" and can include "copies of worksheets, writing samples, book reports, test results, drawings, newspapers, and public notices" (p. 147). Further, Schensul et al. (1999) defined archival data as "materials originally collected for bureaucratic or administrative purposes that are transformed into data for research purposes" (p. 202). Examples of the use of archival data in research are ubiquitous: Brown (2018) used archival data in her study of music education aiding the "positive outcomes" of pupils in subjects not previously associated with music instruction "including student achievement in math." Williams (2020) used archived test scores from student STEM testing in urban schools to examine the "effectiveness of [an] integrated Science Technology Engineering and Mathematics program on student achievement scores in Jamaica. Finally, Beckley (2016) incorporated prior Pennsylvania System of School Assessments (grades 3-6) into her investigation of a school-wide positive behavior support model.

The archival data for this investigation, test scores from the *ged.com* platform, have been previously collected and stored, as diagnostic tools, for the organization's instructors to triage and target tutoring for GED students. The next sections will provide details of elements linked to the quantitative analysis processes chosen for this research, including an examination of Cohen's *d*, the paired sample *t*-test, and convenience sampling.

Data Analysis Procedures

This quantitative quasi-experimental research, bounded by the following dates: October 21, 2016, and May 28, 2021, analyzed pretest results administered via *ged.com*. The data set will be tested for assumptions. Laird Statistics (2018) informed that all data used for statistical analysis must pass assumptions testing specific to the type of analysis to be performed; *t*-tests have 4: One, there must be dependent variables that can be measured on a continuous scale. For this research *ged.com* pretest scores (0-200). Two, the independent variable (*ged.com pretest* score) should be from 2 related groups (pretest-posttest). Three, there are to be no significant outliers in the data. These can affect the statistical significance of the test. Four, all data must be approximately normally distributed (Laerd Statistics, 2018). Once assumptions are tested and met, pretest and posttests in each subject area will be evaluated for the mean difference effect sizes (Cohen's *d*). Results of the paired sample *t*-test will be examined for each individual and between each subject matter grouping.

Paired Sample t-Test

"The dependent *t*-test (called the paired-samples *t*-test in SPSS Statistics) compares the means between two related groups on the same continuous, dependent variable" (Laerd Statistics, 2018). Schwartz et al. (2019) defined the test further stating that a *t*-test is: "A set of statistical procedures that are used for evaluating hypotheses that propose a difference between two means" (p. 277). A *t*-test informs on how significant the differences are between the two measured groups (Glen, 2020). For this investigation, a paired sample *t*-test will be run seeking differences between pretests and posttests on *ged.com* subject area pretests, assessing whether the scores are statistically significant or

not. If they are significant, it affirms that the treatment, trauma-informed literacy practices, provided positive outcomes for the students. If they are not, it informs on whether the intervention is a valuable tool for the Texas-based non-profit's trauma-informed GED prep program. This test was chosen as the most effective way to assess potential effect sizes between each student's performance on *ged.com pretests* and the program's use of trauma-informed literacy practices (Vogt, 2005; Glen, 2020; & Schwartz et al., 2019).

Cohen's d, Effect Size

The *ged.com pretest*, pretest, and posttest scores will be evaluated for mean difference effect size (Cohen's *d*) and checked for statistical significance through Statistical Package for the Social Sciences (SPSS) a software package created for the management and statistical analysis of social science data (Foley, 2019) with a paired sample *t*-test (see below). Schwartz et al. (2019) defined Cohen's *d* as "An effect size statistic that presents the difference between two means in standard deviation units and is most typically reported with *t*-tests" (p. 272). Glen (2020) affirmed that "Cohen's *d* is one of the most common ways to measure effect size." The *d* in Cohen's *d* refers to the standard deviation between the groups. Standard deviation (SD) is "a standardized measure of variability in a data set that is typically reported with the mean" (Schwartz et al., 2019, p. 277). Effect sizes are generally described as, small effect = 0.2, medium effect = 0.5, and large effect = 0.8. Effect sizes speak to the validity of the treatment, trauma-informed literacy practices, and whether that treatment is providing positive, or no, outcomes for the students. If the effect size is negligible, it informs on whether the

mediation is a valuable tool for the Texas-based non-profit's trauma-informed GED prep program (Agresti, 2013; Glen, 2020; Klein & Dabney, 2013; Vogt, 2005).

One-Way ANOVA

A one-way ANOVA will be used to analyze sub-question 1a: What effect, if any, does the use of trauma-informed literacy practices have on adult GED student's *ged.com pretest*/posttest scores by subject? *ged.com pretest* subject matter areas to be examined are math, reasoning, and language arts, science, and social studies. Vogt (2005) defines an ANOVA as "a test of statistical significance of the differences among the mean scores of two or more variable or factors" (pp. 8-9). For this research, this technique will be used to ascertain the difference between *ged.com pretest* subject matter areas.

Ethics of the Researcher and Protection of Human Subjects

Human Subjects Protection

This research project will be submitted to the investigator's university institutional review board (IRB) for approval. The IRB process is an outgrowth of *The National Research Act of 1974* to protect human subjects of research. "IRB procedures increase autonomy and respect and safeguard those who are vulnerable" (Roberts & Hyatt, 2019, p. 146). The U. S. Department of Health and Human Services (2016) has clarified ethical guidelines that must be adhered to for the protection of human subjects. Roberts and Hyatt (2019) listed three main tenents of The Belmont Report which highlights these protections. One, respect for persons, with an emphasis placed on voluntary and informed consent, privacy, confidentiality, and allowing the participants the right to withdrawal without penalty. Two, beneficence where the "risks" such as

conflicts and attempts to reduce bias are addressed. And three, topics associated with justice and the protection of vulnerable persons.

Bias Statement

In this research, I seek to better appreciate issues related to trauma-affected adult learners who have trouble moving forward in their educational journeys due to trauma and its lingering effects. I have been an 8th-grade History teacher in a classroom that was made up of students (89%) that were labeled at risk, due to a multiplicity of factors, many of which were trauma-related. Additionally, I have been a TESOL instructor in Turkey, and a volunteer teacher working in Kenya with high school students in a slum area of Nairobi. At present, I am a doctoral student in literacy whose dissertation is heavily influenced by trauma-informed practices as they relate to the learning process. Concomitant to the above, I am the executive director of the education-centric non-profit organization being evaluated in this research.

Limitations

In any research project, there are often uncontrollable factors that can alter the study's outcome. Perhaps, the most important limitation is the exposure time each student has to the program's trauma-informed literacy practices. This is a transient population and participants that do not obtain some form of permanent housing during their enrollment in the program (from an outside source) leave the program area in search of that permeance. Often this reduces their exposure to confidence-building relationships that imbricate the necessity of learning and its pathway to success. This can make data collection hard as some participants take the pretest but do not remain enrolled long enough to take the follow-up posttest. Alternatively, students that enter the GED prep

program possessing the necessary skills to pass any of the 4 GED exams often only take the pretest once. A participant that takes, for example, the math pretest and scores a 167/200 would not need to retake that pretest as they had already exhibited the necessary acumen to pass the associated exam. This *success* reduces the pretest-posttest pool of data as well.

Chapter Summary

This chapter contained a summary of the methodology of this research. The purpose of this study was to examine whether trauma-informed literacy practices influence trauma-affected students' *ged.com pretest* scores in a nonprofit's GED prep program. Grades were used from archival scores. A paired sample t-test and a one-way ANOVA were used to aid in the evaluation of the mean difference effect size (Cohen's d). The following chapter will present the results and data analyses of the study.

The next section, Chapter 4, will detail the results of the captured data.

CHAPTER IV

This research focused on the educational disempowerment of adult learners touched by traumatic events caused by an array of factors such as emotional abuse, physical and sexual abuse, neglect, homelessness as well as poverty. Specifically, the investigator sought effects between the participant's trauma and their ability to make progress in a Texas-based non-profit's trauma-informed GED prep program which employed trauma-informed literacy practices such as the creation of *felt safety* in learning spaces and strong student-teacher relationships to aid learners toward their GED certification. Further evaluation of individual *ged.com pretest* subjects sought additional effects and/or practical significance via a one-way ANOVA. In this instance, *ged.com pretest* scores were grouped by subject matter, math, reasoning and language arts, science, and social studies for analysis.

This chapter includes sections describing the analysis of data associated with the Texas-based non-profit's trauma-informed GED prep program. It includes organizational sections suggested by Roberts and Hyatt (2019). These sections comprise an overview of the problem, a review of the methodology, and a restatement of the research questions as well as informing on the sample, data collection procedures, analysis, a synopsis of the results, and a summary of key findings.

Overview of the Problem

Adult learners who have had traumatic experiences, either simplex or complex, face a raft of issues associated with reduced educational outcomes including, but not limited to, deficient economic outputs resulting in generational or situational poverty,

homelessness, or constricted health possibilities (Emdin, 2008; Jensen, 2009 & 2013; McInerney & McKlindon, 2004; Newkirk, 2009). The U.S. Department of Education reported that 43 million American adults possessed low literacy levels (OECD, 2013). Low literacy was defined as those lacking "the ability to understand, evaluate, use and engage with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential" (p. 61). Seventy percent of all children who have lived in poverty will drop out and low-income families are five times more likely to leave school than their wealthier counterparts (Alliance for Excellent Education, 2008; Chapman et al., 2011; Fukuyama, 2011; Hernández, 2012; Jensen, 2013). Wilkinson and Pickett (2009) admonished that inequality breeds social dysfunction and that "social problems, including mental illness, violence, imprisonment, lack of trust, teenage births, obesity, drug abuse, and poor educational performance of school children, are also more common in more unequal societies" (p. 493). Each of these traumas, homelessness, the scarcity of financial opportunities, and poor health become the source of generational and historical disempowerment.

The participants of this study, trauma-affected adult literacy learners seeking GED certification, represented just such a circumscribed population. They are deeply intertwined with the previously described at-risk modalities and they, their children, and their broader social and cultural group live in a feedback loop of diminished realities and outcomes. By providing research related to how trauma-informed literacy practices affect trauma-exposed literacy learners attempting GED certification, in a specific Texas-based non-profit's program, this investigation focused on providing a single view of reality, does the intervention create an effect, or does it not, as it related to the participants

ged.com pretest scores. This positivistic research seeks to quantify results associated with the phenomenon in the hope of delivering a trauma-informed literacy practices toolkit for educators, the world over, who inhabit learning spaces where this menace exists.

Methodology

This quasi-experimental research, bounded by the following dates: October 21, 2016, and May 28, 2021, analyzed pretest results administered via *ged.com*, and the results were evaluated for mean difference effect size (Cohen's *d*) and checked for statistical significance through SPSS using a paired sample *t*-test (research question 1) and further analysis was done via a one-way ANOVA (sub-question 1a). This investigation informs on questions related to the efficacy of trauma-informed literacy practices, such as strong student-teacher relationships and the creation of *felt safety* in learning spaces on adults enrolled in a Texas-based non-profit's trauma-informed GED prep program.

Research Question and Sub-Question

The research question analyzed here:

1. What effect, if any, does the use of trauma-informed literacy practices have on multiple adult GED student's *ged.com pretest* scores in each subject matter tested?

    a. What effect, if any, does the use of trauma-informed literacy practices have on adult GED student's *ged.com pretest*/posttest scores by subject? *ged.com pretest* subject matter areas to be examined are math, reasoning, and language arts, science, and social studies.

Sample

The participants consisted of a convenience sample. There was no control group. Pajo (2018) described convenience sampling as allowing the researcher to select any available participants for the study. And that "participation happens by availability and accident" (p. 141). Vogt (2005) echoed this assumption stating that "A sample of subjects [are] selected for a study not because they are representative but because it is convenient to use them" (p. 62). Convenience sampling is the "opposite of probability sampling, where participants are randomly selected, and each has an equal chance of being chosen" (Glen, 2020). This type of sampling was best for this research due to the lack of stability inherent in the population.

Participants

Fifty-nine participants, ages 17 to 63, twenty-one males, and 38 females took part in the research project. All learners enrolled in the Texas-based non-profit's trauma-informed GED prep program are legally defined as adults and were at least 18 years old, or 17 years old with a court order or parental permission to attempt the GED. Each was pre-screened by a referring agency or screened upon enrollment for exposure to traumatic experiences. These traumatic events and subsequent effects on their ability to move forward in the Texas-based non-profit's trauma-informed GED prep program have been exhaustively discussed in previous sections. This exposure to either simple or complex trauma may have affected their ability to learn and is a critical research component. The participants, when such data was available, had their highest progress through the U.S. K-12 system recorded. The highest grade attained by each student is based on standard U.S. K-12 designations and is detailed in Table 4. The right column reports on the number of

participants in this research that reported the highest grade attained in the American school system.

Table 4

Highest Grade Attained

Highest Grade Attained (K-12)	Number of Participants
12th grade	8
11th grade	14
10th grade	15
9th grade	3
Below 9th grade or not reported	19

Table 5 informs on the 4 types of GED testing available to students via Pearson's *ged.com* website. The right column reflects the number of *ged.com pretests* completed by the study's participants. It should be noted that participants have the choice of what *ged.com pretests* they attempt as they progress through the non-profit's GED prep program. This self-determination in pretesting may skew the tables numbers away from subjects such as math and science. Gafoor and Kurukkan (2015) informed that nearly 90% of their study's participants selected mathematics as the subject they hated the most. This distaste was correlated to the difficulty of the subject matter and poor instructional standards. This bias may exist with the participant population as well.

Table 5

ged.com *Pretest and Number of Students that Completed Each Pretest*

ged.com pretests	Number of tests recorded
Social Studies	26
Math	20
Science	18
Reasoning and Language Arts	30
Total test taken	94

The next section will detail the analysis of the *ged.com pretest* scores collected by the Texas-based non-profit's trauma-informed GED prep program.

Analysis

This section includes a presentation of assumptions testing and reports the findings of the analysis of the data. Archival records kept by the Texas-based non-profit, comprising data from 94 *ged.com pretest* scores were analyzed via SPSS for statistical significance and effect size (Cohen's *d*) to address research question 1. Multiple subject matter areas, math, science, social studies, and reasoning, and language arts made up the *ged.com pretest* data set. The analysis of *ged.com pretest* scores sought to determine the effectiveness of the treatment, trauma-informed instruction provided by the Texas-based non-profit's staff, between pretest and posttest subject matter *ged.com pretest* scores. Additionally, a one-way ANOVA was used to address sub-research question 1a to examine what effect, if any, does the use of trauma-informed literacy practices have on adult GED student's *ged.com pretest*/posttest scores by subject?

Assumptions

Analyzing data using a paired sample *t*-test, involves assuring that the data is viable to the paired sample *t*-test's processes, and it is only appropriate to use that specific test if your data *passes* four assumptions, as well as each benchmark meeting criteria, to present valid results (Laerd Statistics, 2018). The assumptions testing for the paired sample *t*-test are as follows:

1. The dependent variable must be continuous and measured at the interval or ratio level.
2. The independent variable should consist of two related groups or matched pairs.
3. Are the results normally distributed with no significant outliers?
4. Is the dependent variable, with outliers removed, normally distributed?

Assumption Results/Findings

Before performing assumptions testing the researcher visually examined the data for any striking abnormalities. Among the irregularities, were extreme variations in *ged.com pretest* scores that suggested great leaps in subject matter comprehension in a short period. An example of this would be a participant receiving a 105/200 on a pretest and 175/200 on a pretest. Seven visible abnormalities of this type were culled from the data set.

Data were screened and found to be normally distributed, and all assumptions were met. Table 6 shows the results of normality testing. Important to this analysis was Shapiro-Wilk's valuation of $p = .905$, signifying no statistical significance.

"The Shapiro-Wilk test is a statistical test of the hypothesis that the distribution of the data as a whole deviates from a comparable normal distribution. If the test is non-significant ($p > .05$) it tells us that the distribution of the sample is not

significantly different from a normal distribution. If, however, the test is

significant ($p < .05$) then the distribution in question is significantly different from

a normal distribution" (University of Cincinnati, 2018).

Tables 6 and 7 make clear the results of assumptions testing and includes the results of

normality and descriptive findings.

Table 6

Tests of Normality

Tests of Normality			
Difference	Statistic	df	Sig.
Kolmogorov-Smirnov	.062	88	.200*
Shapiro-Wilk	.993	88	.905

Note. *. This is a lower bound of the true significance. a. Lilliefors Significance
Correction

Table 7

Descriptives

			Statistic	Std. Error
Difference	Mean		-6.50	.90
	95% confidence interval	Lower Bound	-8.30	
		Upper Bound	-4.70	
	5% trimmed mean		-6.50	
	Median		-6.00	
	Variance		72.41	
	Std. deviation		8.51	
	Minimum		-26.00	
	Maximum		15.00	
	Range		41.00	
	Interquartile range		12.00	
	Skewness		.043	.257
	Kurtosis		-.36	.51

Paired Samples *t*-Test: Research Question 1

A paired-samples *t*-test was conducted to answer research question 1 which called for the comparison of *ged.com pretest* scores both pre-intervention and post-intervention. There was a significant difference from the pretest (M = 141.67, SD = 6.33) to posttest (M = 148.17, SD = 7.64), (M = 6.50, SD = 8.51), t(-7.16) = 87, p = .001 suggesting that the Texas-based non-profit's GED prep program, and the concomitant trauma-informed instruction/intervention, aided in significant gains in *ged.com pretest* scores for its participating students.

Effect Size Cohen's *d*

For practical significance, mean difference effect sizes were compared. Cohen's d = (148.17 - 141.67) ⁄ 7.017728 = 0.92 (Stangroom, 2021). The effect size d = 0.92 asserts that a large effect exists and those students participating in the Texas-based non-profit's trauma-informed GED prep program show significant growth in *ged.com pretest* scores between pretest and posttests.

One-Way ANOVA

A one-way ANOVA was conducted to compare the effects of trauma-informed literacy practices on 4 subject matters, including math, reasoning and language arts, science, and social studies *ged.com pretest* scores (Research question 1a). For this sub-question's analysis, posttest scores were used to assist in interpreting the results of the intervention. Assumptions were tested and met. There was a significant difference between the four subject matter tests [F(3, 90) = 6.23, p = .001]. The results are summarized in Table 8.

Table 8

One-Way ANOVA Results

ANOVA

Post-test score

	Sum of squares	df	Mean square	F	Sig.
Between groups	1,243.25	3	414.42	6.23	.001
Within groups	5,984.71	90	66.50		
Total	7,227.96	93			

To further investigate the differences, a Tukey HSD Post was analysis was conducted to determine which subject matter areas performed better in response to trauma-informed literacy practices. Table 9 summarizes the Tukey HSD analysis.

Table 9

Tukey HSD Post Hoc Analysis

Subject area	Subject area	Sig.
Science	Math	.003
	Reasoning & language arts	.001
	Social studies	.027

Research Question 1a and *t*-Test and Effect Size Results by Subject

Each of the *ged.com pretests*, pretest, and posttest results associated with the four subject areas-math, reasoning and language arts, science, and social studies were tested for both statistical significances using a paired sample *t*-test and effect size (Cohen's *d*). The result of each analysis is below by subject.

Math

Nineteen students from the Texas-based non-profit's trauma-informed GED prep program completed *ged.com pretests* in math, pretest, and posttests. The results of the analysis for *ged.com pretest*/pretest are (M = 139.68, SD = 7.28) and *ged.com pretest*/posttest (M = 145.26, SD = 1.95) assert that there was a statistically significant increase from pretest to posttest, t(-2.55) = 18, p = .020. Additionally, there was a medium effect size of 0.71 (Cohen's *d*).

Reasoning and Language Arts (RLA)

Twenty-eight students from the Texas-based non-profit's trauma-informed GED prep program completed *ged.com pretests* in reasoning and language arts, pretest, and posttests. The results of the analysis for *ged.com pretest*/pretest are (M = 140.57, SD = 6.07) and *ged.com pretest*/posttest post-test (M = 146.43, SD = 7.23) assert that there was a statistically significant increase from pretest to posttest, t(-3.513) = 27, p < .002. Additionally, there was a large effect size of 0.88 (Cohen's *d*).

Science

Fifteen students from the Texas-based non-profit's trauma-informed GED prep program completed *ged.com pretests* in reasoning and language arts, pretest, and posttests. The results of the analysis for *ged.com pretest*/pretest are (M = 144.07, SD = 4.83) and *ged.com pretest*/posttest (M = 153.73, SD = 5.28) assert that there was a statistically significant increase from pretest to posttest, t(-6.47) = 14, p < .001. Additionally, there was a large effect size of 1.91 (Cohen's *d*).

Social Studies

Twenty-six students from the Texas-based non-profit's trauma-informed GED prep program completed *ged.com pretests* in reasoning and language arts, pretest, and posttests. The results of the analysis for *ged.com pretest*/pretest are (M = 142.92, SD = 6.25) and post-test (M = 148.97, SD = 7.10) assert that there was a statistically significant increase from pretest to post-test, t(-3.518) = 25, p = .002. Additionally, there was a large effect size, 0.90 (Cohen's *d*). Table 10 lists the results with Cohen's *d* effect size for each of the ged.com pretest subject matter areas analyzed.

Table 10

Test Subject and Effect Size (Cohen's d)

Ged.com subject matter area	Effect size*
Math	0.71
Reasoning and language arts	0.88
Science	1.91
Social studies	0.90

*Effect size measured by Cohen's d; 0.20 = small effect, 0.50 = moderate effect, 0.80 = large effect

Summary of Key Findings

The purpose of this research was to quantify the role of trauma-informed literacy best practices on adult GED learners taking part in a Texas-based non-profit's trauma-informed GED program. This investigation informed positively on both the main and sub-questions of the research related to the efficacy of trauma-informed literacy practices, among them strong student-teacher relationships and creating a sense of *felt safety* in learning spaces. The analysis confirmed that a statistical significance, as well as a large

effect size, existed. Trauma-informed literacy practices do have a positive effect on multiple adult GED student's when data associated with the Texas-based non-profit's trauma-informed GED prep program were evaluated quantitatively.

Chapter 4 provided a platform for the reporting of the analysis of data associated with the Texas-based non-profit's trauma-informed GED prep program. In this chapter, the researcher provided an overview of the problem, restated the methodology, informed on the research's participants, and supplied the results of both a paired sample *t*-test and a one-way ANOVA and a concise summary of the key findings. The next chapter, Chapter 5, will provide a synopsis of the research project and offer the researcher's conclusions and its impact on literacy and more broadly scholarship in general.

CHAPTER V

"We live inside an unfinished story."

(Evans, 2018)

Introduction

It has always been the intent of this research to look for a correlation between the use of trauma-informed literacy practices and the advancement of learners towards educational empowerment. This investigation sought to quantify and predict potential outcomes through statistical analysis. This examination of a Texas-based non-profit's trauma-informed GED prep program, and whether trauma-informed literacy practices affected the participant's *ged.com pretest* scores, has provided positive results regarding the research question and sub-question. The trauma-informed literacy practices of building a strong student-teacher relationship and seeking to create *felt safety* in learning spaces have, for this population, generated a measured Cohen's *d* effect size in both the medium and large ranges. Additionally, statistical significance was recorded across all the *ged.com pretest* subject matter areas between pretest and posttest.

Chapter 1 introduced the investigation by presenting the background of the study, defined and discussed trauma, literacy as a concept, trauma-informed literacy, and the trauma-informed literacy practices of a strong student-teacher relationship and creating *felt safety* in learning spaces. Additionally, it provided a problem overview, informed on trauma's effects on learning, and explicated the problem rationale. Further, the theoretical and conceptual framework was given. Finally, a focus statement was made, the research methodology and research question and sub-question were stated, the research's

significance and relevance were established, and a comprehensive definition of terms was detailed.

Chapter 2 presented a review of literature and research, both qualitative and quantitative, related to the origins of trauma-informed literacy and its concepts and practices, and reviewed its application at both the system(s) and classroom level. Trauma's effects on learning and the learner were reviewed along with the specific practices of supporting strong student-teacher relationships and creating *felt safety* in learning spaces. Finally, a critical review was completed regarding andragogy as a discipline, GED certification, and GED programs.

Chapter 3 explicated the methodology and procedures used in the study, including a statement on the research's purpose, the research design, its paradigm, ontology, and epistemology, brief descriptions of quantitative research models, quasi-experimental research designs, one-group pretest-posttest design, detailed the processes of the Texas-based non-profit concerning their GED prep program, and outlined the participants and sample. Additionally, data collection procedures were given, validation of the instrument was discussed, and a detailed description of the treatment was provided. Further, data set details were addressed and data analysis procedures, paired sample *t*-test, Cohen's *d*, and a one-way ANOVA were given. Finally, ethics standard was established, a bias statement given, and limitations were discussed. Chapter 4 contains the results of the analyses. Chapter 5, will provide an overview of the problem, restate the research question and sub-question along with a discussion, deliver a short review of the methodology, provide a detailed discussion of the findings as they relate to the theoretical and conceptual framework as well as its relativism to the literature. Additionally, the investigation's

unexpected findings, possible implications, and recommendations for future research will be examined in detail.

Overview of the Problem

This investigation focused on the disempowerment of adult literacy learners touched by traumatic events caused by an array of factors such as emotional, physical, and sexual abuse, neglect, homelessness, and poverty. This disempowerment is often the outcome of restrictive educational practices put in place by society's elites, financial and hierarchical, in collusion with governments or other ruling paradigms. Freire (2017) in his *Pedagogy of the Oppressed*, called this coopting of literacy an "instrument of oppression" (p. 7) and that it was causally related to truncated outcomes hindering upward mobility and liberation. This assessment provided precedent by linking the phenomenon of ostracization of student populations with historical and contemporary efforts to circumscribe positive educational outcomes. Giroux (2014) intimated that this circumspection could lead to the marginalization of populations and may cause low-income and minority students to lose the ability to critically think. A dearth of higher functioning sociocultural and socioeconomic acumen may lead to generational or situational poverty, homelessness, and/or constricted health outcomes (Emdin, 2008; Jensen, 2009 & 2013; McInerney & McKlindon, 2004; Newkirk, 2009). This reduced access to learning is set against 43 million American adults who are functionally illiterate (OECD, 2013). Further, the U.S. Department of Education (2014) reported that persons with less than a high-school diploma could expect salaries hovering at the poverty level. The participant population is made up exclusively of persons with the above-described modalities and struggle with access to education. The Texas-based non-profit's trauma-

informed GED prep program concentrated on non-traditional and marginalized students who may have been exposed to a traumatic event(s). This research was critical as it looked for a way forward for marginalized populations and their adult education options. The investigation, because of the positive results, has provided a template for other GED program instructors from which to build meaningful trauma-informed literacy instruction.

The next section will provide details regarding the investigation's findings as they relate to the literature and reflect on the work's conceptual and theoretical stance considering this research's results.

Discussion of Findings

Research Question and Sub Question Discussion

There was a positive effect and statistical significance was present in multiple student *ged.com pretest* scores in each of the subject matter areas tested. Additionally, when examining *ged.com pretest*/posttest scores a medium and large effect size was noted.

Research Question 1 Discussion of Analysis

An analysis of the Texas-based non-profit's archival data supports the assumption that trauma-informed literacy practices create a large effect on *ged.com pretest* scores for students in their trauma-informed GED prep program. Additionally, those students showed significant growth in *ged.com pretest* scores between pretest and posttests. The hypothesis that trauma-informed literacy practices can positively affect educational growth has strong support in the literature. Intimately knowing how your students interact and react to a literacy-related stimulus can create positivity and reduce barriers (Baker,

2006; Ennis & McCauley, 2002; Korbey, 2017; Krstic, 2015; Livingstone et al., 2014; Schwartz, 2019; Staufenberg, 2018). Additionally, Perry and Szalavitz (2017) asserted that "[C]hildren's brains grow and are molded by the people around them" (p. xxviii). This was further endorsed by Venets (2018) who was an advocate of the necessity of creating strong teacher-student relationships, and promoting the idea that ". . . consistent, caring relationships are one of the biggest factors in helping children [and adults] heal from trauma".

Research Sub-Question 1a Discussion of Analysis

Positive results were present in the one-way ANOVA analysis as well. Findings presented in the medium and large effect size for the analysis of *ged.com pretest*/posttest scores with particular growth in the science subject matter area. This unexpected finding is elaborated on further in the following section. Frelin (2018) in a prior examination found that . . . "Relational features of the educational environment, such as positive teacher-student relationships, are important for students' academic success" (p. 407). Additional research informed that interpersonal behavior, as perceived by students, might be an important if not the most important variable for educational effectiveness (Brok, et al., 2004; Perry & Szalavitz, 2017).

Each of the hypotheses, research question 1 and sub-question 1a have had their results quantified by mathematical analysis and found to be favorable to the assumption that trauma-informed literacy practices are creating an effect and measured statistical significance on the *ged.com pretest* scores of the GED prep students in the Texas-based non-profit's program. The practice of using trauma-informed literacy practices to aid at-risk adult learners is unique to this Texas-based non-profit. The investigator knows of no

other program that utilizes teaching methods of this type that are interlaced into the entirety of not only the curriculum but intake and instruction as well. No other specific attempt at merging the two ideas was present in the literature either.

Conceptual and Theoretical Underpinnings

The theoretical and conceptual framework for this investigation was grounded in two complementing bodies of literature. The first, Critical Literacy Theory grounded the research and provided an appropriate lens from which to analyze the findings. The second framework concentrated on viewing generational educational circumscription via a historical lens and examined various power dynamics related to the enrichment of individuals, groups, and/or national entities at the expense of others, the *other* being trauma-affected learners, persons of color, poor people, immigrants, those with language barriers, and abused and homeless people to mention a few. Exposure to multiple examples from history informed on this phenomenon and provided context to the research's intimation that sociocultural and socioeconomic factors related to literacy acquisition are dominated by an elite seeking to purposefully exclude people of color, and other at-risk populations, from the rewards associated with educational attainment.

Discussion of Findings Related to the Conceptual and Theoretical Underpinnings. This investigation's conceptual and theoretical assumptions are in congruence with common themes found throughout the literature of historical repression. The review was brimming with dangers to fruitful literacy interactions if the learner was a member of a disenfranchised non-elite. The populations reviewed for this research included male adults in prison as well as court involved women in locales across the U.S. and the world (Alewine, 2010; Meuller et al., 2004; Nuttall et al., 2003; West et al.,

2014), low-income women of color in Boston, MA and poverty-stricken schoolchildren in Scotland, U.K. (Bridwell, 2012; Taylor & Barrett, 2018), Brazilian adults exposed to systemic urban community violence (Flaks et al., 2014), socially stigmatized school drop-outs in Sweden (Frelin et al., 2018), Black students, aged 15-18, in Montreal, Canada, 3rd grade African American males, women of color in adult literacy classes, and African American and Latino students attending public school (Jones, 2012; Juvonen et al., 2006; Livingstone et al., 2014; Powell, 2018), refugees who have found new homes in Canada, the U.S. and Turkey but continue to struggle in their new homes and learning environments (Magro, 2006/2007; Maya Vakfi, 2019; Roxas, 2011), rural community college students that have returned home from war and are experiencing PTSD related trauma (Medley et al., 2017), learners facing homophobic peers and teachers, hetero-sexism, or transphobia at school or the workplace (Bartolome, 2016; Gaffney, 2019; Gorski, 2020), intergenerational trauma for young women in college who have witnessed their mother's abuse (Anderson & Conners, 2020), older adult basic education students facing agism in the classroom (Brinkley-Etzkorn, 2006), American Indians living on reservations (Gaywish & Mordoch, 2018), former foster-care youth (Clemens et al., 2017) and learners exhibiting any of a multiplicity of at-risk modalities that inhabit learning spaces across the world (Baker, 2006).

Each of the prior research studies presented in the literature review informed on the dire consequences related to being perceived by those in power as the *other*. The students enrolled in the Texas-based non-profit's trauma-informed GED prep program comprise just such an at-risk population. Many have been to prison or are facing prison terms, some are on probation for a wide array of offenses. Most, if not all, have grown up

in either generational or situational poverty. They lack any concrete support network, and many have been through the foster care system. Some have been forced into sex work by traffickers. Others, sadly, often witness or are exposed to long-term abuse, both physical and emotional. Further, some participants have been homeless or are currently without housing. Over half of the women are young mothers of multiple children with no financial, emotional, or family support. Most do not possess the basic skills to get and keep a job to clothe, feed, and house themselves much less care for a family. This study's participants mirror, in a significant way, the at-risk and marginalized populations that populate the literature. A symbiotic partnership exists between the study's participants and the populations reviewed here. Each has had their life goals interrupted by not having full and unprejudiced access to learning. This harms their chances of upward social mobility, socioeconomic stability, and puts them at risk of their condition becoming permanent and/or generational. The Texas-based non-profit's trauma-informed GED prep program actively cultivates the creation of support networks between students and teachers. This cultivation seeks to repair damaged connections that have hurt or hindered their growth in prior learning environments.

The next section will provide a discussion on trauma-informed literacy practices at both the systems level and what teachers and administrators can do at the classroom level as well as review whether this research aligns with current scholarship.

Discussion of Findings related to Trauma-Informed Literacy: System(s)-Level and Classroom Interventions

Trauma-informed literacy was examined as a system (schools, organizations, or entire learning environment) level intervention, further review was undertaken to examine what was appropriate for the classroom. A system-level intervention is defined as ". . . include[ing] programs, organizations, or systems that realize the impact of trauma, recognize the symptoms of trauma, respond by integrating knowledge about trauma policies and practices, and seeks to reduce traumatization" (Maynard et al., 2019, p. 1). Classroom interventions are mitigation techniques used by teachers and classroom support staff directly with the learner.

Berger (2019) in her systematic review of trauma-informed care in schools found little evidence of sustained evaluation of trauma-informed programs and discovered "limited and no systematic review" (p. 650). Maynard et al. (2019) in their evaluation of trauma-informed programs agreed, asserting that little is known about the benefits, costs, and how trauma-informed approaches are being defined and evaluated (p. 2). The scarcity of peer-reviewed research surrounding trauma-informed literacy and its concomitant practices highlights the efficacy of the current research; research that fills a critical gap in scholarship associated with adult learners. However, this focus on adults is only the current research model. It is anticipated that the positive and encouraging results associated with this trauma-informed literacy intervention will have broad, system(s)-level, implications for learners of all ages, situations, and locations.

This investigation provided critical quantifiable data from which scholars can begin to make assertions regarding the usefulness of trauma-informed interventions. It has provided not only a research template for examining like mediations, but it has also provided an editable and malleable research model from which to grow the field. For administrators and school officials, it provides demonstrated mechanisms for measuring their trauma-informed efforts at the system level. Berger (2019) agreed and predicted that further analysis of trauma-informed programs measuring the effects of trauma on students "provide guidance for integration of . . . trauma approaches into existing school . . . frameworks" (p. 661).

The next section will provide a discussion of findings related to trauma-informed literacy practices specifically strong student-teacher relationships and the creation of *felt safety* in learning spaces.

Discussion of Findings related to Trauma-Informed Literacy Practices

Research-centric data indicating the success or failure of trauma-informed practices in a literacy setting are not widespread. This is especially true of adult learning spaces. As discussed in previous sections, calls for additional research into trauma-informed literacy practices have been made by many scholars, among them Berger (2019) and Maynard et al. (2019).

This research focused on the effects of trauma-informed literacy practices pervasive to the Texas-based non-profit's trauma-informed GED prep program; heavy support for and active cultivation of strong student-teacher relationships and working towards the creation of *felt safety* in all learning spaces. Inherent to this investigation and

pivotal to creating an environment where these two trauma-informed practices could flourish was Brunzell et al., (2016a), whose study focused on the strengths of trauma-informed positive education (TIPE). TIPE is defined as the creation of a flexible environment that helps with the reduction of stress and conflict in the classroom. The erratic nature of many of the participant's lives, poverty, drug and/or alcohol abuse, probation or other legal issues, lack of mobility, mental health concerns, or homelessness, created the necessity for the reduction of hard lines when it came to behavior issues, scheduled meetings, and homework due dates. This informality created opportunities for relationship growth between teacher and student and caused a reduction of conflict and potential inflammatory exchanges. However, it must be understood that the very nature of an andragogical relationship is the symbiotic landscape inhabited by the teacher and student (Knowles, 1988). It is extremely hard to force-feed education to an adult. And experience acquired during the assessment of this program has reinforced this premise. Many adults simply walked away from conflict or awkward discussions regarding their motives or why they failed to do homework or show up for an exam or tutoring session. This flexible environment may, by necessity, be quite different for younger learners in a more static classroom environment. The Texas-based nonprofit's tutors often decided to reschedule tutoring sessions and/or actively worked with the student to find the best time and location for *ged.com pretesting*. This flexibility enhanced the relationship-building aspect of the program. Further, this malleability let the GED student know how they progressed through the program was paramount.

Strong Student-Teacher Relationships and *Felt Safety*. Literature specific to positive outcomes related to strong student-teacher relationships and the creation of *felt safety* in learning spaces is replete, and positive, in the literature (Holley & Steiner, 2005; National Child Traumatic Stress Network, 2014; Alisic, 2012; Do et al., 2019; Suliman et al., 2009; Suarez-Morales et al., 2017; Brunzell, et al., 2016; Koso & Hansen, 2006; CASEL, 2020; & Soma, 2017). The analysis of data associated with the Texas-based non-profit's intervention adds to that body of scholarship and informs that trauma-informed literacy practices may contribute to positive classroom outcomes for trauma-affected learners.

While the positive effects of a strong student-teacher relationship and the creation of *felt safety* were not questioned in this investigation, finding the best way to produce each was a struggle. Finding the correct mix of carrot and stick was crucial. Incorporating the student's prior learning and current needs was a constant battle. However, this syncretization of past and present was a necessity; Bartle (2019) argued that adults could interact with the instructor to craft the most suitable path toward their ultimate literacy goals. This dynamic "democratic involvement" (Carlson, 1989) with adult students rests at the heart of this research project. Many of the participants had fractured relationships with peers as well as authority figures. Introducing teaching options that did not present as asserting dominance was often critical to success. Working within the participant's defiance issues, inferiority complexes, poor understanding of self-worth, and outright apathy provided a visualization of how working with at-risk adults is realized.

Creating *felt safety* is often learner-specific. In this research, each student met with a tutor or administrator at a place of their choosing. Usually, this was a local library or the referring organization's office space. For some students meeting at a coffee shop or restaurant was deemed safe. Great care was exercised when meeting students individually. This was to protect both sides of the learning process. Troubleshooting where each student felt safest was a vital step in making them able to reengage in the learning process. An example of this would be one student's request to not meet in a local library's conference room. She related to the researcher that it reminded her of the room she was chained in for 4 years when she was being held as a sex worker. Another student asked not to meet at the same library when story-time was being held for children. She had just recently lost her toddler and she became hysterical every time she saw other little kids. Brunzell et al. (2016a) emphasized that trauma is an overwhelming experience that can undermine the individual's belief that the world is good and safe and that persons that have experienced trauma, either simple or complex, can face long-term damage to neurological and psychological systems that can affect key schooling outcomes. Reliving the effect of a traumatic experience shuts down the receptors to further learning. Creating *felt safety* for students is not only imperative to their success but a moral imperative as well.

The next section will describe relationships between the current research project, andragogy, and GED prep programs.

Discussing Findings related to Andragogy and GED Prep Programs

Andragogy programs, such as GED certification courses, can provide access to empowerment for at-risk learners, and their families, as well as enhancing opportunities for socioeconomic and sociocultural growth. Many adults see "literacy programs [as] a desperate hope to finally improve their education and begin to make essential changes in their lives" (Horsman, 2004, p. 130).

Working with trauma-affected adults that have exited k-12 education in the U.S. has produced mixed results (Meeker et al., 2008; NCES, 2018). This investigation, and the trauma-informed ideology incumbent in its literacy practices, sought a more positive way forward for adult-age learners. Brinkley-Etzkorn (2016) reflected on the age of the students as a possible hindrance to success, intimating that ". . . age-related issues . . . may prevent older students from entering the classroom" (p. 18). Bridwell's (2012) investigation sought answers for women of Color pursuing their GED in a shelter-based program in Boston, MA, and concentrated on how to educate this type of group who were "often marginalized by race, class, and gender" (p. 127). These example investigations are germane to the struggles with this research's student participants. Many have passed the age where they feel comfortable returning to a school setting. Additionally, they struggle with the stigma, whether real or imagined, associated with low levels of education. In their world weakness is often perceived negatively and extraordinary efforts are sometimes maintained to prevent others from knowing about their academic

deficiencies, or even the fact that they are returning to school to attempt to change their life's narrative.

The Texas-based non-profit's trauma-informed approach sought mitigation of these factors and others. Two such literacy practices are described and expanded on here: One, the open-ended and flexible approach to learning provided students with the opportunity to craft a schedule of their choosing as well as the reduction of hard lines that may have hindered the growth of a strong student-teacher relationship. Two, the creation of individualized educational journeys, specific to the needs of the student, reduced learner exposure to others in the program, and stigmatization issues were minimized. This attempt to reduce stress and conflict helped create *felt safety* and confidence for the student.

The findings of this research suggest that the interlacing of these two-key trauma-informed literacy practices created the learning environment that allowed statistical significance and medium and large Cohen's *d* effect size to present in *ged.com pretest* scores signifying positive growth for the student. Additionally, it highlighted the efficacy of, not only this particular Texas-based non-profit's trauma-informed GED prep program but speaks to the viability of this intervention as a potential template for like adult education curriculums. Further, strong student-teacher relationships and creating *felt safety* are not practices specific to adults. The practices can be effective across age groups. More research can inform on the validity of this statement.

The next section will discuss any unexpected findings from the research project and the analysis of the Texas-based non-profit's *ged.com pretest* data.

Unexpected Findings

Unexpected findings associated with this analysis are few. It was the hypothesis that approaching adult-orientated education in a caring and trauma-informed manner would provide positive results. Especially when merging these tenants with one-on-one guided instruction. The researcher, the Texas-based non-profit's Executive Director, could visually note the growth in *ged.com pretest* scores and the celebration of successful graduations when a student passed their final GED exam, however, it was important to quantify these results in a valid and reproducible way. It was informally predicted that social studies would be the most frequently seen in the data as growth positive. The lead tutor has a meager math and science background but is strong in history (BA in history), geography (minor), political science as well as language arts. This enthusiasm for liberal arts often led to students starting with the social studies portion of the GED certification.

A one-way ANOVA was conducted to compare the effects of trauma-informed literacy practices on 4 subject matters, math, reasoning and language arts, science, and social studies *ged.com pretest*/posttest scores. Unexpected was sub-question 1a's ANOVA results which stated that the *ged.com pretest* subject area science, exhibited a large effect size, and presented greater statistical significance related to the analysis of its variable, trauma-informed literacy practices, than the remaining 3 subject matter areas. This was surprising as science-related instruction was not widespread throughout the survey's research period.

Implications and Recommendations for Future Research

The quantitative analysis of *ged.com pretest* scores is used by the Texas-based non-profit's trauma-informed GED prep program to inform on progress within their program for each student as well as providing support for or against its overall curriculum and best practices of the organization. This support and the accompanying template for a best practices model of instruction are at the heart of this research. The non-profit's intimation that trauma-informed literacy instruction aids students who have faced barriers to moving forward in their educational journey are suggested in the analysis of the data. Both effect size and statistical significance markers provided evidence of this. There was ample evidence for an acknowledgment of trauma-informed literacy practices as an intervention helping trauma-affected learners move through adult learning programs. New students in the Texas-Based non-profit's trauma-informed GED prep program and potential learners in other andragogical spaces may move forward in a significant way.

Future research should seek to provide input from a larger pool of students and investigators should build into the methodology a strong measurement of time exposed to the intervention. Possibly tracking time in the program to better assess exposure to the program's main tenents. Also, it must be noted that the organization's one on one instruction model has been shown to cause increases in outcomes not always related to trauma-informed practices Grasha, 2002). Additionally, a qualitative component could be added to any future investigation to garner the impressions of both the staff and students on the efficacy of trauma-informed instruction and whether they felt it added or subtracted to their educational outcomes.

Conclusion

Trauma-informed literacy practices are an increasingly acknowledged necessity for learning spaces the world over. The dearth of research associated with academically reproducible investigations is an issue as well. The trauma-informed literacy practices of building strong student-teacher relationships and the creation of *felt safety* are critical components of constructing a classroom where learning is viable. This investigation has helped to inform on all three of these key issues. By adding to the body of knowledge associated with trauma-informed literacy, especially in providing results that are subject to peer-review, this study is fulfilling a necessary position in trauma-informed scholarship. The assessment of the Texas-based non-profit's trauma-informed GED prep program has provided scholarship as well as instructors inhabiting andragogical spaces, with a template from which to build successful trauma-informed literacy programs. The positive effects recorded by this quantitative analysis should provide hope for instructors and curriculum designers who want to make changing the narrative the norm for their at-risk and disempowered students.

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APPENDIX A

GED Pretest Specifics (Pearson, 2020)

Math	**Test Topics:**	**Time allowed**	**Format** 2 parts, calculator allowed on second part
	Basic Math Geometry Basic Algebra Graphs and Functions	115 minutes Short break between parts	Access to calculator reference sheet and math formula sheet Multiple choice and other question types (drag and drop, fill-in-the-blank, select an area, and drop down)
Social Studies	**Test topics**	**Time allowed**	**Format**
	Reading for Meaning in Social Studies Analyzing Historical Events and Arguments in Social Studies Using Numbers and Graphs in Social Studies	70 minutes No breaks	Calculator allowed Access to calculator reference sheet Multiple choice and other question types (drag and drop, fill in the blank, select an area, and drop down)
Science	**Test topics**	**Time allowed** 90 minutes No breaks	**Format**
	Reading for Meaning in Science Designing and Interpreting Science Experiments Using Numbers and Graphics in Science		Calculator Allowed Access to calculator reference sheet Multiple choice and other question types (fill in the blank, drag, and drop, select an area, and drop down)

Reasoning through language arts	Test topics	Time allowed	Format
	Reading for Meaning	150 minutes	3 sections
	Identifying and Creating Arguments	10-minute break between parts 2 and 3	1 written essay (extended response)
	Grammar and Language	45 minutes for the written essay	Multiple choice and other question types (drag and drop, select an area, and drop down)

VITA

EDUCATION

Sam Houston State University
BA: History
Minor: Geography   2011
Honors: Outstanding Student in History

Sam Houston State University
Master Curriculum and Development   2014
Thesis: *Poverty's effects on learning*

Sam Houston State University
Master of Public Administration   2015
Concentration in Geographic Information Systems

Sam Houston State University
Doctorate in Education (Literacy)   2021
Dissertation: *An assessment of a
Texas-based non-profit's trauma-informed
GED prep program*

ACADEMIC POSITIONS

SAM HOUSTON STATE UNIVERSITY
Clinical faculty: 4+1 TEACH Fellow   2020
ROBERSON MIDDLE SCHOOL
8th-grade History Teacher   2013-2014
WALL STREET LANGUAGE INSTITUTE
TESOL Instructor   2012

RELATED EXPERIENCE

Educational Outcomes
Executive Director   2015 –
Present
Responsible for effective management and growth
of educational solutions based 501c3 non-profit
organization.

Region 6 Education Service Center/EduHero
Education Consultant

Develop Region 6's Trauma-Informed Training program for distribution via EduHero platform throughout the region's 415+schools.

PUBLICATIONS

Audas, G., Jr. (2019). Trauma informed literacy for adult learners (P. Vittoria, Ed.). In D. Hill (Ed.), *IX International Conference on Critical Education, Resistance and Praxis against Populism, Sexism and Racism: Book of Abstracts* (Naples 3-6 July, pp. 19-20). Brighton: Institute for Education Policy Studies.

Audas, G. W., Jr. (2018). Book Review: The reading mind: A cognitive approach to understanding how the mind reads. *READ: An Online Journal for Literacy Educators, 4*(7).

CONFERENCE PRESENTATIONS

Audas, G., Jr., (2021). Creating Safe Spaces: Trauma-Informed Education Training Program.   Research presented at the Literacy Texas Conference.

Audas, G., Jr., Duer, S. (2021). Trauma-Informed Education: Effects on Learning, Classroom Strategies & Discipline. Research presented at the Literacy Texas Conference.

Audas, G., Jr., Hendrickson, K. (2021). Verbal Aikido: A tool for teacher persistence and resilience. Research presented at the annual meeting of ATE, virtual.

Audas, G., Jr. (2020). Trauma's effects on learning. Research presented at the annual meeting of CSOTTE, virtual.

Audas, G., Jr., Hendrickson, K. (2020). Verbal Aikido: A tool for teacher persistence and resilience. Research presented at the annual meeting of CSOTTE, virtual.

Audas, G., Jr. (2020). Trauma's effects on learning. Research presented at the Summer 2020 meeting of Texas Association of Teacher Educators, virtual.

Audas, G., Jr., Pagels, J., Edgar, M. (2020). Trauma is impacting our learners: What do we do about it? Research presented at the annual meeting of Texas Association of Literacy Educators, Odessa, TX.

Audas, G., Jr., Cameron, S., Ojumu, O. D., Dickens, L., Edgar, M., James, K., Panozzo, M., Winard, A. & Durham, P. (2019). Practices of literacy through a historical lens: An ethnographic observation by doctoral students of practical application of course content of LITC History of Literacy. Research presented at the annual meeting of the Association of Literacy Educators and Researchers, Corpus Christi, TX.

INVITED GUEST SPEAKER

Audas, G., Jr. (2021, May 4). Creating safe spaces. Presentation at Houston Baptist University's *Teaching & Learning Sciences Department at The College of Education and Behavioral Sciences*, Houston, Texas (virtual).

Audas, G., Jr. (2021, February 10). Trauma's effects on learning & community resources. Presentation for community leaders. *Family & Community Coalition Montgomery County*, Conroe, TX.

Audas, G., Jr. (2020, February 16). Trauma's effects on learning. Presentation for community leaders. *Montgomery County Homeless Coalition*, Conroe, TX.

Audas, G., Jr. (2019, March). Trauma's effects on learning. Presentation for administrators and staff. *Verbal Aikido*, Lyon, France.

Audas, G., Jr. (2018, April). Trauma's effects on learning. Presentation administrators working with trauma-affected learners. *Catholic Charities*, Houston, TX.

Audas, G., Jr. (2018, January). Trauma's effects on learning. Presentation for teachers and administrators working with adult ESL learners. *Literacy Achieves*, Dallas TX.

Audas, G., Jr. (2017, December). Trauma-informed teacher training. Presentation for teachers and administrators working with trauma-affected learners. *Women's Association for Community*, Daraa, Syria (virtual).

Audas, G., Jr. (2017, October). Trauma-informed teacher training. Presentation for teachers and administrators working with trauma-affected learners. *Yuva*, Istanbul, Turkey.

Audas, G., Jr. (2017, October). Trauma-informed teacher training. Presentation for teachers and administrators working with trauma-affected learners. *Small Projects Istanbul*, Istanbul, Turkey.

Audas, G., Jr. (2017, October). Trauma's effects on learning. Presentation for teachers in English language department. *Istanbul Technical University*, Istanbul, Turkey.

Audas, G., Jr. (2017, September). Trauma-informed teacher training. Presentation for teachers and administrators working with trauma-affected learners. *Rainbow Community Center*, Gaziantep, Turkey.

Audas, G., Jr. (2017, September). Trauma-informed teacher training. Presentation for administrators working with trauma-affected learners. *DARB* (Huzur yolu), Gaziantep, Turkey.

Audas, G., Jr. (2017, September). Trauma-informed teacher training. Presentation for teachers and administrators working with trauma-affected learners. *Syrian Forearm*, Al Bab, Syria (virtual).

TRAINING MODULES: Written and Developed

- Trauma-Informed GED Prep Program Training Manual (2019)
  - Educational Outcomes: A Global Development Charity
- Trauma Informed Teacher Training Program (2017)
  - Training Modules 1-8
    - Educational Outcomes: A Global Development Charity
- Creating Safe Spaces (2021)
  - Training Modules
    - Educational Outcomes: A Global Development Charity