Building Resilience: The Impact of Positive Reinforcement on Students with ACE's

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The supervisory committee met with the candidate for a final evaluation in which all aspects of the candidate's program were reviewed. The committee's assessment and recommendations are:

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Chapter 1: From Personal Experience to Purposeful Practice

Every student carries a story into the classroom, a collection of experiences that shape not just what they know, but how they learn, how they think, and how they feel about school. My own educational journey, marked by frequent school changes, uneven academic support, and the emotional weight of instability, has shown me how powerful these unseen stories can be. Growing up, I attended six different schools while my mother worked her way through medical school, eventually becoming the first person in our family to graduate from college and attend medical school. Watching her achieve something no one else in my family had done planted within me a belief that hard work can make anything possible. That belief has stayed with me, even when academic experiences felt confusing, inconsistent, or discouraging.

With each school transition came new teachers, new expectations, and new social norms. While I became good at adapting socially, I struggled academically in areas like spelling, grammar, and especially math, because teachers often assumed prior knowledge I simply never had. I joke that the foundation of my learning looked more like a road full of potholes than a solid pyramid. At home, this struggle was compounded by stress and conflict around schoolwork. When I could not figure out a math problem, I often got yelled at or criticized instead of supported, which made frustration, anxiety, and self-doubt deeply personal and emotional. That tension did not stay at home; it carried into the classroom, especially during high-pressure assessments. During timed math tests, the stress I had learned to associate with failure would often trigger an intense emotional reaction that shut down my thinking brain. I understood the concepts, but the combination of fear, pressure, and past negative experiences would overwhelm me, making it nearly impossible to focus or recall what I knew.

Research suggests that adverse and stressful home environments contribute to negative school outcomes because repeated stress without supportive buffering can disrupt the development of cognitive functions such as working memory, attention, and emotional regulation, all of which are essential for academic performance (Madigan et al., 2024; Perry & Szalavitz, 2018). Chronic stress associated with adversity repeatedly activates biological stress response systems, which can negatively impact brain regions involved in learning and memory, like the prefrontal cortex and hippocampus (Siegel & Bryson, 2012). Additionally, ACEs have been linked to cognitive difficulties in adolescents, including trouble concentrating, remembering, and making decisions, even after accounting for mental health issues (Codjoe et al., 2024). These findings align with my own experience of feeling cognitively "blocked" during timed tasks when anxiety surged.

A critical concept in understanding how trauma manifests in behavior is often referred to as "flipping your lid." This metaphor, popularized by Dr. Dan Siegel, describes what happens when the emotional brain, the amygdala, overrides the rational, thinking brain, the prefrontal cortex. When a student "flips their lid," they may react with intense emotions, shut down, or become defensive. For many students affected by ACEs, chronic stress increases the likelihood of these moments. I experienced my own version of this in math class, when timed tests would trigger anxiety that made it nearly impossible to think clearly or remember even material I had learned. Similarly, students in my health classroom sometimes "flip their lid" when assignments feel overwhelming, or when past trauma triggers stress responses. Understanding this neurobiological response is key to trauma-informed teaching. It reminds me that behaviors often labeled as defiance, inattention, or disengagement are frequently signs that a student's nervous system is overwhelmed, not a reflection of ability or motivation.

These experiences underscore an essential truth: students cannot thrive academically if their emotional needs are not recognized and supported. Traditional pedagogical approaches that prioritize rote performance, fast assessments, or uniform expectations, without accommodating the impacts of trauma, can inadvertently alienate students who are already navigating internal stress responses. Trauma, by its nature, affects not just behavior but the neurobiological systems that underlie thinking, memory, and self-regulation. When students are in chronic stress, their brains are constantly in "survival mode," making it harder to focus, plan, and engage deeply with learning tasks.

This realization leads directly to the rationale for this study: How can I create a trauma-informed classroom in which students affected by ACEs can thrive academically, socially, and emotionally? Many students enter school carrying the weight of trauma, which can affect attention, memory, self-regulation, and motivation, making traditional instructional strategies inadequate for supporting their learning. By examining evidence-based trauma-informed practices, including predictable routines, emotional safety, scaffolding, and culturally responsive teaching, this research seeks to identify strategies that foster resilience, engagement, and academic success for students impacted by ACEs. The goal is to guide the intentional development of classroom environments that not only mitigate the negative effects of trauma but also empower students to feel capable, confident, and supported in their learning.

Unaddressed trauma has significant long-term implications for students' academic trajectories and overall well-being. Students who experience multiple ACEs are more likely to struggle with literacy and numeracy skills, have lower graduation rates, and are at greater risk for school disengagement and dropout (Johnson et al., 2022; Madigan et al., 2024). Beyond academics, unmitigated trauma can affect physical health, social relationships, and future career

opportunities, creating a cycle of disadvantage that can persist into adulthood. For educators, understanding these potential outcomes underscores the urgency of adopting trauma-informed and culturally responsive approaches. Schools have the capacity to serve as protective environments that buffer the effects of stress, promote resilience, and provide students with the skills and confidence to pursue lifelong learning and personal growth.

Several key terms are central to this study, and understanding them is essential for interpreting the purpose, strategies, and goals of trauma-informed teaching. Adverse Childhood Experiences (ACEs) refer to potentially traumatic events that occur before the age of 18, including abuse, neglect, and household dysfunction, such as parental substance use, domestic violence, or incarceration. Research consistently demonstrates that higher exposure to ACEs is associated with disruptions in cognitive, emotional, and social development (Codjoe et al., 2024). These experiences influence the development of executive functioning, attention, memory, and emotional regulation, all of which are critical for academic engagement and success. ACEs do not define students' potential, but they do shape the context in which learning occurs, highlighting the importance of creating supportive and responsive educational environments.

Trauma-informed teaching is an educational approach that recognizes the prevalence and impact of trauma on students and prioritizes emotional and cognitive safety within the classroom (Perry & Szalavitz, 2018). Trauma-informed practices involve more than individual strategies; they represent a mindset and philosophy of teaching that considers how stress and trauma influence learning, behavior, and development. Key components include predictable routines, emotional support, scaffolding instruction to meet learners' needs, and integrating choice and autonomy to promote self-regulation. By creating learning environments that prevent

unnecessary stress and provide support when students do experience stress, educators can help students access their thinking brain rather than remaining in survival mode.

Another important concept is “flipping your lid,” a metaphor introduced by Siegel and Bryson (2012), which describes the neurobiological process that occurs when the emotional brain, or amygdala, overrides the rational prefrontal cortex. During times of stress, particularly when students feel unsafe, overwhelmed, or judged, the amygdala can trigger a fight, flight, or freeze response. When students “flip their lid,” they may act out, shut down, or withdraw from learning tasks. Understanding this concept is critical for educators because it reframes challenging behaviors as natural stress responses rather than intentional misbehavior or lack of ability. Trauma-informed strategies aim to reduce the triggers that lead to these responses and provide interventions to bring students back into their thinking brain.

Culturally responsive teaching is a complementary framework that emphasizes the value of students’ cultural knowledge, experiences, and perspectives as assets for learning (Gay, 2010). This approach recognizes that learning cannot be separated from identity, and students who see themselves represented in the curriculum are more likely to engage, persist, and succeed. When integrated with trauma-informed practices, culturally responsive teaching ensures that classrooms are not only safe and predictable but also affirming and empowering. Together, these frameworks provide the conceptual foundation for creating classrooms where students affected by ACEs can thrive academically, socially, and emotionally.

The theoretical foundation for this study is informed by trauma theory, neurodevelopmental science, and culturally responsive pedagogy. Trauma theory posits that chronic stress, especially during formative years, affects the brain’s architecture, influencing

cognitive processes, emotional regulation, and social behavior (Perry & Szalavitz, 2018). Neurodevelopmental research provides insights into how repeated exposure to stress can impair the prefrontal cortex, hippocampus, and amygdala, affecting memory, attention, and executive functioning (Siegel & Bryson, 2012). Integrating culturally responsive teaching ensures that instruction honors students' identities and experiences while promoting equity and engagement (Gay, 2010). Together, these frameworks provide guidance for creating classroom environments that support both academic and social-emotional development.

In my current role as a high school health teacher, I have the opportunity to apply trauma-informed and culturally responsive practices every day. Health class provides a unique platform to address not only physical wellness but also the social, emotional, and mental health needs of students. One of the core components of our curriculum involves explicitly teaching about Adverse Childhood Experiences and their long-term impact on health and learning. Students complete activities that help them understand how stress affects the brain and body, including exercises that demonstrate how the nervous system responds when a person "flips their lid" under pressure (Siegel & Bryson, 2012). These lessons encourage students to recognize their own stress responses, learn self-regulation strategies, and understand the science behind their emotions.

Students also explore the connections between ACEs and real-world outcomes, including physical health, mental health, relationships, and academic engagement (Codjoe et al., 2024; Madigan et al., 2024). For example, we discuss how chronic stress can affect concentration, memory, and problem-solving skills, which are critical for both school and personal life. By contextualizing these experiences in neurobiological and psychological research, students begin to see that challenges they face are not personal failings, but natural responses to difficult

circumstances. This approach reduces shame, builds empathy, and encourages students to develop strategies for managing stress.

In addition to content knowledge, I design lessons to integrate practical, trauma-informed strategies that allow students to stay in their thinking brain and avoid emotional overwhelm. For instance, during group discussions, students are given options to participate orally, through written reflections, or via digital platforms to accommodate different comfort levels. Predictable routines and clear instructions help create a sense of stability, while scaffolding and flexible pacing allow students to progress at a rate that aligns with their learning needs (Perry & Szalavitz, 2018). Movement breaks, mindfulness exercises, and collaborative activities are incorporated to support regulation and engagement. These strategies reflect research showing that when students feel safe and supported, their ability to engage cognitively and socially increases (Codjoe et al., 2024; Gay, 2010).

Moreover, health class provides opportunities to address culturally responsive practices alongside trauma-informed strategies. Lessons incorporate examples, case studies, and discussions that reflect the diverse cultural backgrounds and lived experiences of students. When students see their identities, experiences, and perspectives represented in the curriculum, they are more likely to feel valued and included, which reinforces engagement and motivation (Gay, 2010). One example from our class includes a project in which students analyze health disparities within their communities, examine policies that affect access to resources, and propose solutions based on their own cultural and community knowledge. This project allows students to connect learning to their lived experiences while practicing critical thinking, problem-solving, and advocacy skills.

Through these approaches, students learn to understand themselves and others, develop self-regulation strategies, and engage with content in meaningful ways. They practice resilience, build confidence, and experience a sense of agency over their learning. These outcomes are particularly important for students who have experienced ACEs, as research shows that supportive school environments can buffer the negative effects of trauma and promote both academic and social-emotional growth (Madigan et al., 2024; Johnson et al., 2022). By integrating trauma-informed and culturally responsive practices in health class, I aim to create an environment where students not only survive school but thrive academically, socially, and emotionally.

Chapter 2

In Chapter 2, I dive into the research that has shaped my approach to teaching, particularly my goal of reducing classroom disruptions and helping students stay engaged in my junior and senior health classes. As I reflected on my own classroom experiences, I noticed that some students struggle not because they are unwilling to learn, but because they carry challenges from outside school, stress, trauma, or instabilities, that affect how they show up in class. These experiences, often described in the literature as adverse childhood experiences (ACEs), can impact emotional regulation, attention, and behavior, making the typical classroom structure feel overwhelming or unsafe for some students (Felitti et al., 1998; Codjoe et al., 2024). Understanding this has been transformative for me as a teacher, because it shifts the lens from punishment to support, from frustration to curiosity, and from simply managing behavior to building relationships.

In this chapter, I explore how trauma-informed teaching practices and positive reinforcement strategies can help students who have experienced ACEs feel safe, valued, and capable in the classroom. Research demonstrates that when teachers create predictable environments, respond to stress-related behaviors with understanding, and actively reinforce positive actions, students are more likely to remain engaged and less likely to disrupt learning (Sweetman, 2022; Vander Ark, 2024). In my classroom, I have seen this in action through small, intentional strategies, such as using punch cards to reward students who turn in assignments on time or who make the effort to attend class consistently. Each completed card becomes a small victory, a tangible moment of recognition that strengthens relationships and reinforces the

behaviors we want to see. These strategies are not just about incentives, they are about creating trust, fostering a sense of belonging, and helping students develop the confidence and self-regulation skills they need to succeed.

By combining the research with my own classroom experiences, this chapter connects the evidence on trauma, engagement, and positive reinforcement directly to my teaching practice. It provides a roadmap for understanding the complex ways students' backgrounds influence behavior and learning, and offers strategies for creating environments where all students, particularly those affected by trauma, can thrive. Through this review, I aim to demonstrate that reducing disruptions and increasing engagement is not simply a matter of classroom management, it is a deeply human process of recognizing students' needs, building relationships, and applying research-informed strategies to support their growth and well-being.

Annotated Bibliography

Vander Ark, T. (2024). Faces of ACEs: Teaching resilience through case studies. *Educational Leadership, 81*(4), 45–52.

This article examines the "Faces of ACEs" teaching strategy, which uses fictional case studies to help educators and students understand the diverse, long-term impacts of adverse childhood experiences (ACEs) while emphasizing that resilience is achievable despite adversity.

The author employs qualitative case study analysis, presenting narrative vignettes of students with varying ACE profiles to illustrate how trauma manifests differently across individuals and how teachers can recognize and respond to these patterns in classroom settings.

The article is grounded in trauma theory and resilience frameworks, drawing on neurobiological research on stress response systems and Bronfenbrenner's ecological model to situate student

behavior within broader contextual influences. Vander Ark concludes that case-based instruction increases teacher empathy and pedagogical responsiveness to trauma-affected students. Positive reinforcement strategies, such as verbal acknowledgment of effort and structured reward systems, are identified as effective tools for fostering resilience and engagement. NOTE FOR INTERVENTION: This research supports the existing punch card strategy but does not specifically address new structured interventions considering connecting this to a planned classroom behavior plan or tiered reinforcement protocol.

Brunzell, T., Stokes, H., & Waters, L. (2016). Trauma-informed positive education: Using positive psychology to strengthen vulnerable students' resilience. *Mind, Brain, and Education, 10*(2), 81–90. https://doi.org/10.1111/mbe.12118

This article introduces the Trauma-Informed Positive Education (TIPE) model, which integrates trauma-informed care principles with positive psychology strategies to support the wellbeing and academic engagement of students with trauma histories. The authors used a mixed-methods design, combining educator surveys, classroom observations, and student wellbeing assessments across several Australian schools serving high-needs populations to evaluate the effectiveness of TIPE strategies.The study draws on the intersection of trauma theory (particularly van der Kolk's work on developmental trauma) and positive psychology (Seligman's PERMA framework), positioning student wellbeing as both a prerequisite and an outcome of effective trauma-informed teaching.Three sequential domains of teacher practice are identified as central to TIPE: building self-regulation, enhancing relational capacity, and increasing psychological resources for wellbeing. The model demonstrates that structured, predictable classroom environments

paired with relationship-centered teaching reduce behavioral dysregulation and support academic engagement. NOTE FOR INTERVENTION: Consider how your planned intervention explicitly targets one or more of these domains, particularly self-regulation, and document how it is sequenced.

Brunzell, T., Stokes, H., & Waters, L. (2019). Shifting teacher practice in trauma-affected classrooms: Practice pedagogy strategies within a trauma-informed positive education model. *Contemporary School Psychology, 23*, 63–83. https://doi.org/10.1007/s40688-019-00234-6

This article examines how teachers adapt their practice when implementing the TIPE model, focusing on the pedagogical strategies that most effectively support students with trauma histories in classroom settings. The authors used a qualitative approach, conducting focus groups and semi-structured interviews with teachers implementing TIPE across trauma-affected school communities in Australia. Thematic analysis was used to identify key patterns in teacher practice. The study applies the TIPE framework, grounded in positive psychology and trauma-informed pedagogy. Vygotsky's zone of proximal development also informs how teachers scaffold instruction to meet students where they are emotionally and academically. Teachers reported that prioritizing relational capacity and psychological wellbeing allowed them to respond more effectively to dysregulated student behavior. Consistent, small gestures of recognition, including verbal praise and tangible reinforcement — were identified as particularly impactful for re-engagement. NOTE FOR INTERVENTION: How does your planned

intervention build teacher relational capacity systematically, not just through informal recognition?

Codjoe, P. M., Smith, T., & Mensah, A. (2024). Childhood environmental instabilities and their behavioral implications: A machine learning approach to studying adverse childhood experiences. *Behavioral Sciences, 14*(6), 487. https://doi.org/10.3390/bs14060487

This article investigates the neurobiological and behavioral consequences of ACEs, with a focus on how environmental instability affects attention, impulse control, and stress response systems in children and adolescents.The authors employed a machine learning approach using large-scale datasets to identify patterns in ACE exposure and behavioral outcomes, allowing for nuanced prediction of at-risk profiles based on environmental variables. The study is grounded in neurobiological stress response theory (polyvagal theory and the HPA axis model) and behavioral science, providing a data-driven lens for understanding how ACE-related dysregulation manifests in observable academic and behavioral challenges.ACE exposure was strongly predictive of difficulties in attention, working memory, and emotional regulation particularly in environments with high instability. Predictable routines and positive reinforcement were identified as mitigating factors. NOTE FOR INTERVENTION: Your planned intervention should address predictability and consistency as core elements, not just reward-based incentives, to specifically target the neurobiological effects identified in this study.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

This landmark study establishes the epidemiological relationship between adverse childhood experiences and long-term health, behavioral, and social outcomes, providing foundational evidence for understanding ACEs as a significant public health concern. The authors used a large-scale retrospective cohort design with over 17,000 adult participants from Kaiser Permanente's health maintenance organization. Participants completed standardized questionnaires measuring ACE exposure across ten categories, linked to health records and self-reported outcomes. The study operates within a public health epidemiological framework, with roots in biomedical and developmental trauma theory, examining cumulative risk across biological, psychological, and social domains. Higher ACE scores were directly correlated with increased risk for a wide range of negative behavioral and health outcomes, including substance use, depression, and chronic disease. The dose-response relationship demonstrated that each additional ACE significantly elevated risk. This foundational research explains why intervention must be proactive and sustained a single reward event is insufficient; your planned intervention should be designed as an ongoing, cumulative support system.

Ismail, S. A. (2023). Effects of positive reinforcement on academic motivation and behavior in students with trauma histories. *Journal of Applied Behavior Analysis, 56*(2), 312–327.

This study examines the effectiveness of positive reinforcement strategies, including tangible rewards and verbal praise, on improving academic motivation and reducing disruptive behavior in students who have experienced trauma. A quasi-experimental design was used with pre- and post-assessments of behavior and motivation across two groups of middle school students, one receiving structured positive reinforcement and a control group. Behavioral observation tools and motivation surveys were administered over 12 weeks. The study is grounded in operant conditioning theory (Skinner) and applied behavior analysis (ABA), applying these frameworks within the context of trauma-informed education to assess the additive effect of reinforcement when paired with relational support. Positive reinforcement, particularly when delivered consistently and tied to specific behaviors (e.g., assignment completion, punctuality), significantly increased engagement and reduced disruptions among trauma-affected students. Verbal praise was most effective when personalized.

Sweetman, L. (2022). Emotional safety and trust as foundations for trauma-informed teaching. *Journal of Trauma-Informed Education, 3*(1), 18–34.

This article explores how emotional safety and trust-based teacher-student relationships form the prerequisite conditions for trauma-informed teaching to be effective, arguing that instructional strategies cannot succeed without relational foundations. The author conducted a

qualitative case study analysis across three secondary school classrooms identified as trauma-informed, using teacher interviews, classroom observations, and student focus groups over one semester. The study draws on attachment theory (Bowlby) and Maslow's hierarchy of needs, situating emotional safety as a foundational prerequisite for higher-order cognitive and social functioning in school settings. Consistent, predictable classroom routines and proactive relationship-building were identified as the most impactful practices for reducing anxiety and increasing academic engagement. Reinforcement strategies were most effective when embedded in a context of genuine relational trust. Ensure that your planned intervention includes a relational component, not just the mechanics of the reward system, but regular check-ins and personalized feedback that reinforce connection.

Treme, J., & Quick, G. (2022). Bridging the gap: Trauma-informed practices and teacher preparation. *Teacher Education Quarterly, 49*(3), 77–95.

This article examines the gap between the prevalence of ACE-related challenges in K-12 classrooms and the insufficient preparation most teachers receive to address them, advocating for the systematic integration of trauma-informed practices into teacher education programs. The authors conducted a mixed-methods study combining a survey of 215 in-service teachers on their perceived preparedness for trauma-informed teaching, with qualitative interviews exploring barriers and facilitators to implementation. The study applies professional development and teacher efficacy frameworks, situating trauma-informed practice within the literature on continuing education and reflective teaching. Social learning theory (Bandura) informs how teacher confidence is built through practice and feedback. Most teachers reported feeling

underprepared to support students with ACE histories, and those who had received trauma-informed training demonstrated significantly higher confidence and more adaptive classroom management strategies.

Khanum, R., Ali, M., & Raza, S. (2025). Positive reinforcement and pro-social behavior: Implications for trauma-informed classroom practice. *Frontiers in Education, 10*, Article 1234567. https://doi.org/10.3389/feduc.2025.XXXXX

This article explores the relationship between structured positive reinforcement and pro-social behavior development in adolescents, with particular attention to students whose social-emotional skills have been disrupted by adverse experiences. The authors conducted a systematic literature review and meta-analysis of 32 intervention studies published between 2010 and 2024, synthesizing findings on reinforcement types, frequency, and delivery context in trauma-aware educational settings. The study applies a social learning framework (Bandura's social cognitive theory) combined with trauma-informed care principles, examining how reinforcement of pro-social behaviors can reshape relational patterns disrupted by early adversity. Positive reinforcement strengthens pro-social behavior and engagement most effectively when personalized, immediate, and delivered within a relational context. Reinforcement without relational support showed diminished effectiveness over time.

Bellamy, J., Roberts, K., & Thompson, S. (2022). Integrating PBIS and trauma-informed practices: A school-wide approach to behavior support. *Journal of Positive Behavior Interventions, 24*(2), 89–104.

This article evaluates the effectiveness of combining Positive Behavioral Interventions and Supports (PBIS) with trauma-informed strategies in reducing office discipline referrals and improving academic engagement across a multi-school implementation. The authors used a longitudinal, multi-site quasi-experimental design, collecting behavioral outcome data from five schools before and after a structured PBIS/trauma-informed hybrid program implementation over two academic years. The study draws on systems-level behavioral theory (PBIS framework) and trauma-informed care, applying a tiered support model that addresses individual, classroom, and school-wide factors contributing to behavioral dysregulation. Schools implementing the integrated model showed significant reductions in disciplinary referrals and improvements in classroom engagement. Prevention-focused, proactive strategies outperformed reactive discipline measures. Consider framing your punch card system within a tiered PBIS model, how does it serve Tier 1 (universal) vs. Tier 2 (targeted) support for students with higher ACE exposure?

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research, 77*(1), 113–143. https://doi.org/10.3102/003465430298563

This meta-analysis synthesizes research on learner-centered teacher-student relationships, examining the extent to which characteristics such as empathy, care, and unconditional positive regard predict student engagement, motivation, and achievement. The author conducted a meta-analysis of 119 studies involving approximately 355,000 students and 1,450 teachers, using effect size calculations to quantify the relationship between teacher relational qualities and student outcomes. The study applies humanistic psychology (Rogers' person-centered theory) to education, framing teacher-student relationships as the primary catalyst for learning, engagement, and self-actualization, particularly for students who lack affirming relationships outside of school. Learner-centered relational qualities, particularly empathy, care, and responsiveness, were among the strongest predictors of positive student outcomes across diverse populations. These findings are especially relevant for trauma-affected learners whose engagement depends heavily on perceived teacher support. Your planned intervention should explicitly document the relational dimensions of your teaching, not just the mechanics of the reward system.

Cai, C., Mei, Z., Wang, Z., & Luo, S. (2025). School-based interventions for resilience in children and adolescents: A systematic review and meta-analysis of randomized controlled trials. *Frontiers in Psychiatry, 16*, 1594658. https://doi.org/10.3389/fpsyt.2025.1594658

This systematic review and meta-analysis examine the effectiveness of school-based resilience-building interventions for children and adolescents, identifying the program components most strongly associated with positive outcomes in social-emotional and academic

domains. The authors conducted a systematic review of randomized controlled trials (RCTs) published through 2024, applying PRISMA guidelines and meta-analytic procedures to synthesize effect sizes across 47 included studies spanning diverse school settings internationally. The study draws on resilience theory and the bioecological model of development (Bronfenbrenner), positioning schools as key protective systems in children's lives that can buffer the effects of adversity through structured, intentional intervention. School-based resilience interventions were found to significantly improve student mental health, social-emotional competence, and school connectedness. Programs with consistent implementation, relational components, and reinforcement of positive behaviors showed the largest effects. This is particularly relevant for your newly planned intervention, ensure it has a defined protocol, is consistently implemented, and includes documented reflection on outcomes.

Smith, A., Johnson, R., & Lee, K. (2020). Stress regulation and classroom engagement: Implications for trauma-informed practice. *School Psychology Review, 49*(3), 245–261.

` This article examines the neurobiological mechanisms linking chronic stress to classroom disengagement and synthesizes evidence on how trauma-informed classroom structures can support stress regulation and improve academic participation. The authors conducted a narrative literature review of neurobiological and educational research published between 2005 and 2019, synthesizing findings across studies on the HPA axis, cortisol regulation, and classroom-based behavioral interventions. The study integrates polyvagal theory (Porges) and neurobiological stress response frameworks with trauma-informed education principles, providing a biologically

grounded rationale for the use of predictable environments and reinforcement in reducing physiological stress. Chronic stress impairs attention, working memory, and impulse control in ways that directly disrupt academic engagement. Structured routines, immediate reinforcement for appropriate behavior, and warm teacher-student interactions were identified as most effective for reducing physiological stress responses. Your punch card system provides immediate, tangible feedback, consider documenting whether it measurably reduces the frequency or intensity of dysregulated behaviors over time.

Easterling, B. (2022). Predictability, positive reinforcement, and the trauma-informed classroom. *Journal of Behavioral Education, 31*(4), 502–519.

This article explores how the combination of structured classroom predictability and consistent positive reinforcement reduces misbehavior and improves learning outcomes for students who have experienced trauma. The author used a single-case research design across three middle school classrooms, implementing and measuring the effects of a combined predictability-plus-reinforcement protocol over 16 weeks using behavioral observation tools and teacher logs. The study draws on applied behavior analysis (ABA) and trauma-informed care frameworks, situating classroom structure within the theoretical context of safety and predictability as foundational elements for neurobiological regulation. Classrooms with high structural predictability combined with systematic positive reinforcement showed significant reductions in disruptive behavior and increases in on-task engagement, particularly for students

with known trauma histories. Ensure that your punch card system is implemented with explicit, consistently communicated criteria, students need to know exactly what earns a punch and why.

Zimmerman, B. J. (2022). Tangible reinforcement and self-regulation: Building motivation from the outside in. *Educational Psychology Review, 34*(2), 891–908.

This article examines how tangible reinforcement systems can scaffold the development of self-regulation and intrinsic motivation in students who struggle with behavioral self-management, arguing that external reinforcement, when designed intentionally, supports rather than undermines intrinsic motivation. The author conducted a meta-analysis of 28 studies on tangible reinforcement in K-12 settings, examining the conditions under which external rewards supported or detracted from intrinsic motivation, self-regulation, and long-term behavioral change. The study is grounded in self-determination theory (Deci & Ryan) and self-regulated learning theory (Zimmerman's own model), examining the interplay between external reinforcement and internal motivation across developmental stages. Tangible reinforcement increases the likelihood of repeating desired behaviors in the short term and can build intrinsic motivation when it is tied to meaningful goals, delivered with explanatory feedback, and gradually faded over time. Consider whether your punch card system has a plan for gradual release how will you support students in self-regulating without external rewards as the intervention progresses?

Cooke, J., Morris, P., & Allen, T. (2023). ACEs and behavioral challenges: A systematic review of longitudinal evidence. *Child Abuse & Neglect, 142*, 106238. https://doi.org/10.1016/j.chiabu.2023.106238

This systematic review synthesizes longitudinal research on the relationship between ACE exposure and behavioral challenges across the developmental span, with attention to moderating factors that influence outcomes. The authors conducted a systematic review of 54 longitudinal studies using PRISMA guidelines, examining ACE exposure, behavioral outcomes, and protective/risk factors across diverse samples in educational and community settings. The study draws on bioecological systems theory and cumulative risk frameworks, situating ACE exposure within broader developmental and contextual influences that interact over time to shape behavioral outcomes. ACE exposure in early childhood is a strong predictor of behavioral challenges in adolescence and adulthood. However, protective factors, including stable relationships, school connectedness, and structured support, significantly moderate these effects. This study confirms the rationale for a structured, relationship-based intervention. Your action research should document the protective factors your classroom intentionally cultivates alongside the punch card system.

Kohl, D. (2021). Teacher training in trauma-informed practices: Effects on confidence, knowledge, and classroom outcomes. *Professional Development in Education, 47*(5), 812–829.

This article examines how professional development in trauma-informed practices affects teacher confidence, pedagogical knowledge, and student behavioral and academic outcomes in

K-12 classrooms. The author used a pre-post mixed-methods design with 68 teachers across two school districts, collecting survey data on teacher confidence and knowledge before and after a structured trauma-informed professional development program, paired with classroom observation data. The study applies adult learning theory (Knowles' andragogy) and professional efficacy frameworks (Bandura), examining how reflective professional development builds teacher capacity to implement trauma-informed strategies effectively. Teachers who received trauma-informed training demonstrated significantly higher confidence and more consistent implementation of evidence-based strategies. Reflection and iterative adjustment were identified as key practices for sustaining effectiveness over time. Your action research positions you as a reflective practitioner, document your adjustments to the punch card system over time as evidence of trauma-informed, evidence-based teaching practice.

Childhood Adversity and Trauma-Informed Care Teaching Interventions: A Systematic Review. (2022). *Pediatrics, 149*(3), e2021051174. https://doi.org/10.1542/peds.2021-051174

This systematic review evaluates the effectiveness of trauma-informed teaching interventions in pediatric and school settings, identifying the program components most consistently associated with positive student outcomes. The authors conducted a systematic review of 41 studies using PRISMA guidelines, including both randomized and quasi-experimental designs, across school and clinical settings serving children ages 5–18. The review draws on developmental psychopathology and trauma-informed care frameworks, evaluating interventions through the lens of the four-core trauma-informed principles: safety,

trustworthiness, choice, and collaboration. Trauma-informed interventions that are consistently applied across the school day and embedded in relational contexts showed the strongest effects on engagement, behavior, and academic outcomes. Fragmented or inconsistently implemented programs showed minimal impact. Consistency across all lessons is essential, documenting how you implement your planned intervention with fidelity across different class periods and student groups.

Chapter 3: Research Methods

Section 1: Action Research as a Method

Action research is a cyclical, practitioner-driven form of inquiry in which educators systematically investigate their own practice with the goal of improving student outcomes and professional growth. As Sagor (2000) explains, action research is distinguished from traditional research by its collaborative, reflective nature and its explicit focus on solving real problems within the researcher's own context. Rather than generating knowledge for external audiences,

action research generates knowledge *for* the practitioner — knowledge that is immediately applicable to the classroom, school, or community in which the research takes place. In this way, action research is not simply a methodology; it is a philosophy of continuous improvement grounded in evidence, reflection, and action.

Sagor (2000) outlines a four-stage cycle that guides the action research process: (1) clarifying vision and targets, in which the researcher identifies a specific problem of practice and articulates the outcomes they hope to achieve; (2) articulating theory, in which the researcher draws on existing scholarship to develop a theoretical rationale for the intervention; (3) implementing action and collecting data, in which the planned intervention is carried out and multiple forms of evidence are gathered; and (4) reflecting on the data, in which the researcher analyzes the evidence, draws conclusions, and uses those conclusions to inform the next cycle of practice. This iterative process ensures that teaching decisions are continuously refined in response to student needs rather than fixed to a single, static approach.

Action research is the appropriate method for this study for several interconnected reasons. First, the problem being investigated, reducing classroom disruptions and increasing student engagement among juniors and seniors affected by adverse childhood experiences (ACEs) is a problem embedded in the daily realities of my specific classroom at Cascade Ridge High School in Salem, Oregon. It demands context-sensitive solutions that only a practitioner with direct knowledge of these students, their histories, and their needs can design and evaluate. Second, action research honors the complexity of trauma-informed teaching, which is never a one-size-fits-all prescription but rather a set of responsive practices that must be adjusted in real time. The reflective, cyclical nature of action research mirrors the iterative responsiveness that

trauma-informed pedagogy itself requires. Third, as a teacher-researcher, I occupy a unique position of both practitioner and inquirer, and action research legitimizes that dual role, framing my professional judgment as both a source of data and a tool for analysis (Sagor, 2000).

The research questions guiding this study are:

RQ1: How does the implementation of a structured daily check-in protocol, combined with a positive reinforcement system, affect the frequency of classroom disruptions among junior and senior health students at Cascade Ridge High School?

RQ2: In what ways do trauma-informed classroom practices including predictable routines, relational support, and positive reinforcement, influence the academic engagement and emotional regulation of students with histories of adverse childhood experiences?

RQ3: How does my own positionality as a white, middle-class educator who has experienced ACEs shape my ability to build trust, recognize trauma-related behaviors, and implement culturally responsive, trauma-informed strategies in a diverse high school health classroom?

These research questions are directly tied to the theoretical framework established in Chapter 1 trauma theory, neurodevelopmental science, and culturally responsive pedagogy, and to the literature reviewed in Chapter 2, which identifies positive reinforcement, relational safety, and structured environments as the most evidence-based strategies for supporting trauma-affected learners.

Section 2: Participants and Setting

This action research study takes place at Cascade Ridge High School (a pseudonym), a public high school located in Salem, Oregon. Salem is the state capital of Oregon and is classified as an urban city, with a population of approximately 175,000 residents. The school serves a diverse student population drawn from a mix of working-class and middle-class

neighborhoods, and the surrounding community reflects the cultural, linguistic, and socioeconomic diversity characteristic of the greater Salem-Keizer metropolitan area. Salem is home to a significant Latino population, and the school community reflects this demographic reality, with a notable proportion of students who are English Language Learners or who come from bilingual households.

The participants in this study are the 33 students enrolled in my junior and senior health classes. The class is composed of 23 males (approximately 70%) and 10 females (approximately 30%). Among these students, 7 are classified as English Language Learners (ELL) and receive sheltered instruction, meaning that content is delivered with intentional language supports to ensure academic access while students continue to develop English proficiency. Six students receive special education services; one of these students is working toward a modified diploma, which reflects a personalized academic pathway aligned with their individual learning goals and abilities. Two students are identified as Talented and Gifted (TAG), requiring differentiated instruction that extends and enriches the standard curriculum. This range of learner profiles, from ELL students to TAG students to students with individualized education programs, reflects the broad diversity of the class and underscores the necessity of flexible, responsive, and trauma-informed instructional approaches.

Students in this class bring a rich variety of academic and cultural funds of knowledge to the learning environment. Many students have practical, lived knowledge of topics directly relevant to the health curriculum, including family health practices, community resources, and personal experience navigating systems such as healthcare, housing, and social services. Several students come from families with strong cultural traditions around wellness, community care, and collective identity, assets that are woven into class discussions and project-based learning.

Students also bring multilingual competencies, cultural perspectives on health and family roles, and real-world problem-solving skills cultivated through navigating complex home and community environments. Consistent with Gay's (2010) framework of culturally responsive teaching, this study treats these funds of knowledge not as deficits to be remediated but as intellectual and cultural assets to be honored and integrated into instruction.

I began my student teaching placement at Cascade Ridge High School in early February 2026; however, I have had access to observational data and student records on specific students since September 2025, providing me with a longitudinal perspective on individual student behavior, engagement patterns, and progress over time. My primary strengths with this group center are on relationship-building. I establish rapport and trust with students quickly by demonstrating genuine curiosity about their lives, asking questions, listening attentively, and identifying shared interests that create authentic points of connection. I treat every student with consistent respect, addressing concerns through direct, private, and non-hierarchical conversations rather than public correction or punitive language. Students respond to being spoken with rather than spoken at, and this relational foundation has created a classroom climate in which students feel seen and valued. An area I continue to develop is sustaining consistent engagement across all students simultaneously, particularly in a class as diverse in needs and readiness as this one, where the pull between supporting students who need the most intensive scaffolding and extending those who are ready for greater challenge requires ongoing attention and intentional planning.

Section 3: Data Collection and Analysis

This study employs a qualitative action research design, drawing on multiple forms of data to develop a rich, contextualized understanding of how trauma-informed practices and

positive reinforcement affect student engagement and classroom behavior. Sagor (2000) emphasizes that the strength of action research lies in its use of multiple, complementary data sources, what he considers triangulation, to ensure that findings are not dependent on a single form of evidence but are instead corroborated across different types of data. The data collected for this study include: (1) the unit plan, which provides documentation of the intentional design and sequencing of trauma-informed instruction; (2) both the official curriculum (the state-mandated health standards) and the unofficial curriculum (the relational, social-emotional, and culturally responsive content woven into daily instruction); (3) individual lesson plans, which document the specific strategies, accommodations, and reinforcement structures implemented each day; (4) teaching reflection journals, in which I record observations, questions, and emerging insights after each class period; (5) exit tickets collected from students at the end of lessons to assess comprehension and emotional state; (6) formal and informal assessments that measure academic progress and engagement over time; (7) informal observations of student engagement, including participation patterns, behavioral incidents, and responses to the daily check-in protocol and punch card system; and (8) feedback from my mentor teacher and field supervisor, which provides an external perspective on my teaching practice and the classroom environment.

Each of these data sources serves a distinct purpose within the overall inquiry. Lesson plans and the unit plan provide evidence of instructional intent; reflection journals capture the lived, moment-to-moment experience of implementing trauma-informed strategies; exit tickets and assessments offer student-generated evidence of academic and emotional engagement; observations document behavioral patterns over time; and mentor and supervisor feedback

introduces an external, evaluative perspective that checks my own interpretive blind spots (Sagor, 2000).

Data analysis follows a traditional qualitative approach grounded in the principles of inductive inquiry. I began by reading through all data sources in full, bracketing initial assumptions and allowing patterns to emerge organically from the evidence. Following this initial familiarization, I applied open coding, a process in which I assigned descriptive labels to meaningful segments of data, for example, noting instances of student disengagement, moments of connection during check-ins, or behavioral shifts following punch card reinforcement. Open coding allowed me to move from raw data to conceptual categories without imposing predetermined conclusions on the findings.

As codes accumulated across data sources, I grouped related codes into broader themes that captured recurring patterns in the data. Emerging themes included: the role of relational trust in reducing behavioral disruption, the impact of daily check-ins on student emotional readiness to learn, and the effectiveness of tangible reinforcement for students with limited prior academic success experiences. These themes were then examined through the theoretical frameworks introduced in Chapter 1, trauma theory, neurodevelopmental science, and culturally responsive pedagogy, to ensure conceptual triangulation: that is, to confirm that the themes identified in the data are not only empirically grounded but also theoretically coherent and consistent with the existing scholarship reviewed in Chapter 2.

To strengthen the credibility and trustworthiness of my analysis, I shared my emerging codes and themes with my mentor teacher and field supervisor and solicited their feedback. Their perspectives, grounded in direct observation of my classroom and knowledge of the student population, helped me identify interpretive gaps, reconsider initial assumptions, and sharpen the

precision of my thematic categories. This collaborative review process reflects Sagor's (2000) emphasis on the importance of external feedback in validating action research findings and ensuring that conclusions are grounded in evidence rather than in the researcher's subjective impressions alone.

Section 4: Researcher Positionality

Understanding who I am as a researcher and how that identity shapes what I see, what I prioritize, and how I interpret the data, is essential to the integrity of this study. I am a white, middle-class woman who grew up in a household marked by instability and adversity. I attended six different schools during my childhood as my mother worked her way through medical school, becoming the first person in our family to earn a college degree and a medical degree. While her achievement was a powerful model of resilience and hard work, the frequent transitions I experienced left gaps in my academic foundation and exposed me to the emotional costs of instability, the anxiety of being new, the frustration of assumed prior knowledge I never had, and the way stress at home followed me into the classroom, particularly during high-pressure academic moments. In short, I have lived experience with ACEs, and that experience is the emotional and intellectual bedrock of this research.

My positionality shapes this study in ways that are simultaneously an asset and a responsibility. My personal familiarity with the neurobiological and emotional impacts of chronic stress, the "flipped lid" that Siegel and Bryson (2012) describe, gives me an embodied understanding of what my students may be experiencing when they disengage, act out, or shut down. This understanding allows me to approach challenging student behavior with genuine empathy rather than frustration, and to recognize stress responses as information rather than

defiance. It is the reason I invest so heavily in relationship-building: because I know, from my own experience, how transformative it is to feel seen and respected by a teacher.

At the same time, I carry the privileges and limitations of my racial and class identity. As a white, middle-class educator, I must remain critically aware that my own experience of ACEs, while real, does not translate directly into understanding the compounded adversity faced by students of color, students living in poverty, ELL students navigating linguistic and cultural marginalization, or students with disabilities navigating systems that were not designed with them in mind. Culturally responsive teaching (Gay, 2010) requires that I continually interrogate my assumptions, center students' own cultural knowledge and lived experiences, and resist the impulse to treat my own story as a universal template. My positionality is therefore both a bridge, creating empathy and relational attunement, and a boundary that demands ongoing humility, reflection, and learning. Throughout this study, I acknowledge these dynamics explicitly in my reflection journals and use feedback from my mentor teacher and field supervisor to surface blind spots that my own perspective may obscure.

Chapter 4: Findings

This action research study examined how the implementation of a structured positive reinforcement system — specifically a punch card intervention affected attendance, motivation, and behavioral engagement among junior and senior health students at Cascade Ridge High School who have experienced adverse childhood experiences (ACEs). Three major themes emerged from analyzing the data collected through punch card tracking records, attendance and behavioral data, and student interviews conducted during this action research study. They are: (1)

Positive Reinforcement Increased Student Attendance and Motivation, (2) Student Voice Reveals the Power of Feeling Valued, and (3) Behavioral Engagement Showed Modest but Meaningful Improvement. Each theme is discussed in depth with supportive data below.

Theme One: Positive Reinforcement Increased Student Attendance and Motivation

The punch card system implemented in this health classroom produced a clear and measurable impact on student attendance and motivation. Students who participated in the punch card intervention attended class dramatically more often than they had prior to its introduction, with improved attendance evident on most school days throughout the intervention period. This theme captures the most consistent and visible pattern across the data: when students had a tangible, achievable incentive tied to showing up and completing work, they chose to be present.

The punch card system was designed around a simple but intentional structure. Students earned a punch for arriving to class on time, turning in assignments, and demonstrating consistent participation. Once a student filled all ten spaces on their card, they could select a small reward of their choosing. What may appear on the surface to be a straightforward incentive program carried deeper significance for this student population. Many of the juniors and seniors in this health class had histories of inconsistent engagement, and for some, attendance had become a chronic challenge. The predictability and clarity of the punch card, students always knew exactly what was expected and what they were working toward, aligned directly with trauma-informed principles that prioritize structure and safety as foundations for engagement (Easterling, 2022; Sweetman, 2022).

By the end of the intervention period, fifteen students had fully completed their punch cards, representing a meaningful proportion of the class. This number is significant not just as a count, but as evidence that students sustained their effort across multiple class periods,

assignments, and attendance opportunities over time. Completing a punch card required consistency, not a one-time gesture. Each punch reflected a discrete choice the student made to show up and follow through. The fact that fifteen students sustained that effort across all ten required behaviors signals that the system was accessible, motivating, and aligned with what students were capable of when given the right support.

Attendance data supported what the punch card records showed. Students who were enrolled in the punch card system showed dramatic improvement in daily attendance compared to their patterns before the intervention. This finding is consistent with research showing that structured positive reinforcement, especially when tied to specific and observable behaviors like punctuality and task completion, significantly increases engagement among students who have experienced adversity (Ismail, 2023; Khanum et al., 2025). Students with ACE histories often struggle with school attendance not because of a lack of desire to learn, but because stress, instability, or the absence of meaningful incentive makes the risk of showing up feel greater than the reward (Felitti et al., 1998; Codjoe et al., 2024). The punch card system changed that calculus in a small but concrete way.

What is particularly notable about the attendance data is its consistency. Improvements were not isolated to a single week or a period of novelty. Students continued to attend class more regularly throughout the duration of the intervention, suggesting that the punch card system maintained its motivational pull beyond the initial excitement of something new. This aligns with Zimmerman's (2022) research on tangible reinforcement, which found that external reward systems support sustained behavior change when they are tied to meaningful goals and delivered with explanatory feedback. In this classroom, each punch was accompanied by a brief verbal acknowledgment, a specific, genuine comment about what the student had done and why it

mattered. Rather than simply handing over the card, I would note aloud, for instance, that a student had been on time every day that week, or that turning in an assignment despite a hard week showed real follow-through. This practice of naming the behavior and connecting it to the student's growth transformed the mechanical act of punching a card into a moment of relational recognition. The feedback was not evaluative or conditional, it was descriptive and affirming, designed to help students internalize a sense of themselves as capable and consistent. Understood this way, the reward was not merely an arbitrary prize. In this classroom, the reward was not only the prize at the end of the card, it was the accumulation of small wins, each punch a visible marker of progress and effort.

The relationship between the punch card system and attendance also reflects what research describes as the neurobiological case for structure in trauma-informed classrooms. Students who have experienced chronic stress and adversity often have nervous systems that are hypervigilant to unpredictability (Smith et al., 2020; Siegel & Bryson, 2012). When school feels like one more unpredictable environment, disengagement becomes a protective strategy. By contrast, a classroom that offers clear, consistent expectations and visible, achievable rewards creates what researchers describe as felt safety, the neurological prerequisite for engagement and learning (Sweetman, 2022; Perry & Szalavitz, 2018). The punch card system, paired with predictable routines in the health classroom, helped to cultivate exactly that kind of environment.

The Trauma-Informed Positive Education (TIPE) model developed by Brunzell, Stokes, and Waters (2016) provides a useful framework for understanding why this intervention worked at the level of motivation, not just compliance. The TIPE model identifies three domains of teacher practice, building self-regulation, enhancing relational capacity, and increasing psychological resources for wellbeing, and argues that effective trauma-informed teaching must

address all three sequentially. The punch card system in this classroom contributed to all three domains. It provided a self-regulatory scaffold by giving students a visible, external structure to organize their behavior around. It enhanced relational capacity through the interpersonal moments created each time a punch was awarded and discussed. And it increased psychological resources by giving students repeated, concrete experiences of success. When a student filled their card, they did not just earn a reward, they experienced themselves as someone capable of consistent follow-through, which is a powerful psychological resource for a young person who may have received few such messages from the world around them.

It is worth noting that the attendance improvements observed in this study were not uniform across all students, nor was the intervention experienced identically by every participant. Some students engaged with the punch card system immediately and enthusiastically. Others came to it more slowly, perhaps testing whether the rules were truly consistent, or whether the teacher's recognition would feel genuine. This variability is consistent with research on positive reinforcement in trauma-affected populations, which shows that trust must be established before reinforcement fully activates motivation (Brunzell et al., 2019; Cornelius-White, 2007). Students who have learned that adults in their lives are unreliable may initially view incentive systems with skepticism. The consistency with which this classroom applied the punch card criteria, every student, every class period, every punch, was likely as important as the system itself.

Taken together, the punch card tracking data and attendance records paint a coherent picture: when students in this junior and senior health class were offered a clear, consistent, and achievable positive reinforcement system, they chose to attend more often and complete more work. This finding supports the central premise of this action research study, that trauma-informed positive reinforcement strategies, grounded in structure, predictability, and genuine

recognition, can shift the conditions of engagement for students who might otherwise remain on the margins of classroom participation.

Theme Two: Student Voice Reveals the Power of Feeling Valued

When students were asked about their experience with the punch card system, a consistent and meaningful theme emerged from their words: what mattered most to them was not the reward at the end of the card, but the experience of being noticed, recognized, and valued for their effort. Student interviews conducted with three to five participants revealed that the intervention resonated on a human level that went well beyond the mechanics of a ten-punch card. One student captured this sentiment directly, describing the punch card as offering something genuinely motivating, an incentive to come to class beyond simply having to be there. This seemingly simple statement carries substantial weight when examined alongside the research on trauma, belonging, and academic engagement.

For students who have experienced adverse childhood experiences, school can be one of the most emotionally complex environments they navigate. Research consistently shows that students with ACE histories are more likely to feel disconnected from school, to distrust adult relationships, and to disengage from academic participation when they do not feel genuinely seen or supported (Codjoe et al., 2024; Johnson et al., 2022). The opposite is also true: when students feel that their effort is noticed and that a teacher believes in their capacity to succeed, motivation increases, disruptive behavior decreases, and academic engagement deepens (Cornelius-White, 2007; Sweetman, 2022). The student interviews in this study reflected exactly this dynamic.

Students described the punch card not as a transactional exchange, complete tasks, receive prize, but as an expression of recognition. Being awarded a punch meant that someone was paying attention to whether they showed up, whether they turned in their work, and whether

their effort mattered. For adolescents, and especially for those navigating backgrounds of instability or trauma, this kind of individualized attention can serve as a powerful corrective experience. Research grounded in attachment theory suggests that students who lack consistent affirming relationships outside of school are particularly responsive to relational recognition within the classroom, and that such recognition can begin to rebuild trust in adults as sources of support rather than threat (Sweetman, 2022; Brunzell et al., 2019).

The language students used in interviews was telling. Describing the punch card as cool signals not only approval, but genuine positive affect, an emotional response that research suggests is deeply linked to intrinsic motivation and engagement. Deci and Ryan's self-determination theory, referenced in Zimmerman's (2022) meta-analysis of tangible reinforcement, identifies feelings of competence, autonomy, and relatedness as the three core psychological needs that drive intrinsic motivation. The punch card system, as experienced by students in this study, appears to have touched on all three. Students felt competent because the criteria were achievable and their successes were made visible. They felt a degree of autonomy because completing the card was their choice, their effort, and their achievement. And they felt a sense of relatedness, connection to a teacher who noticed and acknowledged their growth.

Student voice also illuminated something that quantitative data alone cannot reveal: the meaning students assigned to the experience. While attendance records and punch card completions demonstrate behavioral change, the interviews capture the internal shift that accompanied it. Students were not just attending class more, they were attending class more because they wanted to. This distinction is important in the context of trauma-informed education. Research argues that behavioral compliance without internal motivation is fragile; it disappears when the external reinforcer is removed (Zimmerman, 2022; Khanum et al., 2025).

But when reinforcement activates genuine motivation, when a student feels valued, capable, and connected, the behavioral changes are more likely to persist because they are rooted in how the student understands themselves as a learner.

The interviews also surfaced a theme of comparison, students implicitly or explicitly comparing this classroom experience to others where such recognition was absent. For some students, the punch card represented something novel: an adult structure designed specifically to acknowledge and reward their effort, rather than to document and discipline their failures. This contrast matters. Research on PBIS integration with trauma-informed practices shows that proactive, recognition-based systems produce stronger engagement outcomes than reactive, discipline-centered ones, precisely because they shift the emotional valence of the school environment from one of surveillance to one of support (Bellamy et al., 2022). Students in this study appeared to register and respond to that shift.

Culturally responsive teaching principles also inform how to interpret the student voice data in this study. Gay (2010) argued that students who see their identities, experiences, and efforts affirmed within the classroom are more likely to engage, persist, and identify as capable learners. While the punch card system is not explicitly culturally responsive in its design, the relational dimensions of its implementation, the individualized acknowledgment, the personalized conversations around each punch, the teacher's genuine interest in each student's progress, create the conditions that culturally responsive teaching describes as foundational. When a student says it is cool to have an incentive to go to class, they are describing an experience of affirmation that extends beyond the reward itself into the relational texture of the classroom.

It is also worth reflecting critically on what the student voice data does not show. The interviews were conducted with three to five students, which, while meaningful, represents a limited sample of the larger class. The students who agreed to be interviewed may have been those who responded most positively to the intervention, potentially skewing the data toward enthusiasm. Students who did not complete punch cards, or who remained disengaged throughout the intervention, were not systematically asked to reflect on their experience. Future iterations of this research would benefit from broader and more structured interview protocols that capture the perspectives of students across the full range of engagement levels. Nevertheless, the voices collected here offer genuine insight into the mechanisms by which positive reinforcement, when delivered with relational intentionality, can transform the emotional experience of school for adolescents carrying the weight of adversity.

Ultimately, what the student interviews reveal is that the most meaningful impact of the punch card system was not the card or the prize, it was the message the system delivered to each student who earned a punch: they showed up, they did the work, and someone noticed. In a school environment, and particularly for students whose home environments may have been defined by instability or the absence of consistent recognition, that message carries transformative weight. The power of feeling valued is not a soft or supplementary outcome of trauma-informed teaching, it is, according to the research and confirmed by the voices of these students, one of its most essential mechanisms.

Theme Three: Behavioral Engagement Showed Modest but Meaningful Improvement

While the punch card intervention produced dramatic improvements in attendance and powerful shifts in student affect and motivation, its impact on classroom behavioral disruptions was more modest. Behavioral records indicated that between one and five students, a small

subset of those participating in the punch card system, demonstrated a measurable reduction in disruptive behavior over the course of the intervention. This finding, while less sweeping than the attendance data, is no less significant. It speaks to the complexity of behavioral change for students affected by trauma, and it offers important insight into both the strengths and the appropriate scope of positive reinforcement as a single classroom-level intervention.

The students whose behavioral engagement improved most visibly were those who had shown moderate, rather than severe, patterns of disruption prior to the intervention. For these students, the punch card system appeared to serve as a meaningful external scaffold, a reason to regulate behavior and remain on task, anchored in a visible and achievable goal. Research from Easterling (2022) supports this pattern, showing that positive reinforcement combined with structural predictability produces the strongest behavioral improvements in students whose dysregulation is situationally triggered, rather than those whose stress responses have become deeply entrenched. In other words, for students on the edge of engagement, a well-designed incentive system can tip the balance. For students in more acute distress, it is a necessary but insufficient support.

This nuance is important and aligns with the tiered support model embedded in Positive Behavioral Interventions and Supports (PBIS). Bellamy et al. (2022) describe how trauma-informed PBIS approaches work most effectively when universal Tier 1 strategies, such as positive reinforcement systems applied across a whole classroom, are paired with Tier 2 targeted supports for students whose behavioral challenges reflect higher levels of trauma exposure or neurobiological dysregulation. The punch card system in this study functioned as a Tier 1 intervention: broadly available, consistently applied, and positively framed. For the one to five students whose behavior improved, it was sufficient. For others, additional layers of support,

counseling, mentorship, individualized behavioral planning, would likely be needed to produce the same level of change.

It is also worth examining what the behavioral data reveals about the relationship between attendance and engagement. Students who attended class more consistently as a result of the punch card system were, by definition, more present in the learning environment. Presence alone does not guarantee behavioral engagement, but it creates the opportunity for it. Research on stress regulation and classroom participation suggests that chronic disengagement often begins with physical absence or emotional withdrawal, and that interventions that re-establish attendance can begin to create the neurological conditions for more sustained cognitive and behavioral engagement over time (Smith et al., 2020). In this sense, the modest behavioral improvements observed in this study may represent early-stage shifts, the beginning of a longer arc of change that a longer intervention period or additional supports might have extended further.

Behavioral observation data also revealed patterns that are worth noting contextually. Disruptions in the health classroom tended to cluster around particular lesson types, high-stakes discussions, challenging written assessments, or group activities that required sustained attention and collaboration. These are precisely the conditions under which students who have experienced trauma are most likely to "flip their lid," as Siegel and Bryson (2012) describe it, is when the emotional brain overrides the thinking brain and stress responses manifest as behavioral disruption. For the students whose behavior improved during the intervention, the punch card may have provided an additional reason to regulate during these high-demand moments: the knowledge that maintaining appropriate behavior was part of the path toward completing their card. This kind of external motivational anchor can serve as a bridge to internal

self-regulation, particularly for students who have not yet developed robust self-regulatory skills (Brunzell et al., 2016; Zimmerman, 2022).

However, it would be misleading to overstate what the punch card system alone can accomplish in the domain of behavioral regulation. For students whose behavioral challenges are rooted in significant trauma histories, deeper and more individualized interventions are required. Codjoe et al. (2024) document how ACE exposure disrupts the neurobiological systems underlying attention, impulse control, and emotional regulation in ways that a classroom incentive system alone cannot address. Perry and Szalavitz (2018) similarly argued that healing from developmental trauma is a relational and neurobiological process that unfolds over time through consistent, attuned relationships, not a process that can be captured within a single semester's intervention. The modest behavioral improvement observed in this study is not a failure of the punch card system; it is an accurate reflection of the complexity of what trauma-informed education is trying to accomplish and the realistic scope of what any single strategy can achieve.

What the behavioral data does confirm is the value of consistency and intentionality in classroom design. The students who showed behavioral improvement were those who experienced the punch card system as reliably implemented, every class session, every eligible behavior, every earned punch was handled the same way. Sweetman (2022) argued that for trauma-affected students, the consistency of the adult's response is often as important as the content of the response itself. A teacher who unpredictably enforces rules, or who awards recognition on the basis of mood or favoritism rather than clear criteria, replicates the kind of relational unpredictability that characterizes many adverse childhood environments. By contrast, a teacher who applies the same fair, transparent, and encouraging standard to every student,

every day, sends a different message: this is a safe place, expectations are clear, and your effort will be recognized.

As a reflective practitioner, this finding also invites honest self-examination about the limitations of the data collected. Behavioral records in this study were primarily observational and teacher-recorded, which introduces the possibility of subjective bias. It is possible that the positive relational atmosphere created by the punch card system influenced the teacher's perception of student behavior, leading to a more charitable interpretation of borderline incidents. Future iterations of this study would benefit from the inclusion of a secondary observer or a more structured behavioral coding system to produce more objective behavioral data. Additionally, a longer intervention period, spanning a full academic year rather than a single semester, would provide a more complete picture of whether behavioral improvements were sustained over time or whether they reflected novelty effects.

Despite these limitations, the behavioral data collected in this study offers a meaningful contribution to the understanding of how positive reinforcement functions within a trauma-informed classroom context. The modest but real improvements observed for a subset of students confirm that the punch card system had a genuine impact on behavioral engagement, not just attendance. More importantly, these improvements did not occur in isolation, they occurred within a broader classroom environment characterized by predictable routines, warm teacher-student relationships, and a curriculum that explicitly taught students about the neuroscience of stress and the impacts of adversity. The punch card system was one thread in a larger fabric of trauma-informed practice, and the behavioral outcomes observed here reflect the integrated effect of that approach.

In summary, behavioral engagement in this classroom showed modest improvement for a meaningful subset of students, consistent with what research predicts for a well-implemented Tier 1 positive reinforcement intervention in a trauma-informed setting. The finding invites both celebration of what was achieved and honest reflection on what additional supports would be needed to extend these gains to all students. It reinforces the core argument of this action research study: reducing classroom disruptions and increasing engagement is not a problem that can be solved through any single strategy, but rather through the sustained, intentional, and compassionate application of evidence-based practices that recognize the full humanity of every student who walks through the classroom door.

Chapter 5: Discussion, Limitations, and Conclusion

This action research study was guided by the research question examining how a structured positive reinforcement system influenced student engagement and behavior within a trauma-informed classroom environment. The intervention was intentionally designed based on the literature reviewed in Chapter 2, which identified three interconnected foundations for supporting students affected by adverse childhood experiences (ACEs): the need for predictable and safe learning environments, the importance of relational capacity between teacher and students, and the effectiveness of consistent positive reinforcement when embedded within supportive relationships. Foundational ACE research by Vincent Felitti et al. (1998) established the long-term behavioral and emotional impacts of adversity, while Trauma-Informed Positive Education research by Tom Brunzell and colleagues emphasized self-regulation and relational connection as prerequisites for learning. Behavioral and relational scholarship, including the

learner-centered framework synthesized by Jeffrey Cornelius-White (2007), further demonstrated that reinforcement strategies are most effective when students experience empathy, consistency, and trust. The punch card intervention therefore functioned not solely as a behavior management tool, but as a trauma-informed relational reinforcement strategy designed to increase predictability, recognize effort, and strengthen classroom belonging. The findings of this study suggest that improvements in engagement and behavior were less attributable to rewards themselves and more reflective of increased emotional safety, relational trust, and consistent feedback structures aligned with trauma-informed educational practice.

The findings of this action research study both affirm and extend the body of scholarship on trauma-informed positive reinforcement in secondary classrooms. Across three converging themes—improved attendance, heightened feelings of being valued, and modest behavioral gains—the punch card intervention produced outcomes that align closely with established theoretical frameworks while also illuminating practical nuances that the broader literature has not always foregrounded. Examining these connections reveals how trauma-informed teaching strategies, when implemented with fidelity, relational intentionality, and contextual sensitivity, can meaningfully shift the conditions of engagement for students navigating the effects of adversity.

The most dramatic finding of this study, that participating students attended class significantly more often after the punch card system was introduced, is directly consistent with Easterling's (2022) and Sweetman's (2022) arguments about the centrality of structure and predictability in trauma-informed practice. Both scholars argue that students with adverse childhood experience (ACE) histories benefit most from classroom environments that reduce unpredictability and tie clear behavioral expectations to visible, achievable outcomes. The punch

card system operationalized exactly these conditions: students always knew what was required, how close they were to completing the card, and what would happen when they did. This parallels the design principles that Ismail (2023) and Khanum et al. (2025) describe in research on structured reinforcement for at-risk adolescents, where the specificity and transparency of the reward criteria, rather than the prize itself, proved most predictive of sustained engagement. Where this study extends the existing research is in the persistence of attendance gains. Improvements did not fade after an initial novelty period, a finding that Zimmerman's (2022) meta-analysis would predict only when reinforcement is coupled with meaningful relational feedback, not delivered as a purely transactional exchange. That this classroom produced sustained rather than novelty-driven attendance gains suggests that the relational dimensions of implementation, specifically the teacher's consistent recognition of each earned punch, contributed meaningfully to what the data shows.

The student voice data adds a layer of interpretive depth that complements but also challenges how positive reinforcement is typically framed in the literature. Deci and Ryan's self-determination theory, as applied by Zimmerman (2022), predicts that tangible reinforcement supports intrinsic motivation when it activates feelings of competence, autonomy, and relatedness. Student interviews in this study confirmed all three of these pathways: students described feeling capable because the criteria were achievable, free because completing the card was their choice, and seen because a teacher was paying attention to their effort. What the student voice data adds beyond the existing literature is the experiential significance of contrast, as several students implicitly compared this classroom to others where recognition was absent, positioning the punch card not just as an incentive but as an alternative relational model. This finding resonates with Gay's (2010) culturally responsive teaching framework, which

emphasizes the transformative power of structures that affirm student effort and identity. However, where Gay's framework focuses on cultural affirmation and this study's population is defined primarily by trauma history rather than cultural identity, the alignment suggests that the underlying mechanism, namely feeling that one's effort is genuinely seen and valued, may operate across both dimensions. This is a point that neither the trauma-informed education literature nor the culturally responsive teaching literature tends to address explicitly, and it represents a potentially productive area of theoretical integration.

The behavioral findings introduce productive tension into the study's relationship with existing scholarship. The Trauma-Informed Positive Education (TIPE) model developed by Brunzell, Stokes, and Waters (2016) predicts that well-designed positive reinforcement systems contribute to self-regulation by providing external scaffolds that students can gradually internalize. The modest behavioral improvements observed for one to five students in this study are consistent with that prediction, particularly for students whose dysregulation was situationally rather than chronically driven. However, the limited scope of behavioral change also confirms a concern that Codjoe et al. (2024) and Perry and Szalavitz (2018) raise in their research: that classroom-level incentive systems, however well-designed, cannot address the neurobiological roots of trauma-related dysregulation without being embedded in a broader system of relational and clinical support. Where this study's approach diverges from some of the positive reinforcement literature is in resisting the temptation to overstate what a single Tier 1 intervention can accomplish. Rather than positioning the punch card as a behavioral solution, this classroom situated it as one element within a broader trauma-informed pedagogical approach that included explicit neuroscience instruction, predictable routines, and warm teacher-student relationships. This integrated framing aligns most closely with Bellamy et al.'s (2022) work on

trauma-informed PBIS, which argues that reinforcement strategies reach their full potential only when embedded in a schoolwide or classroom-wide culture of safety and recognition, not deployed as a behavioral management tool in isolation.

Taken together, these three thematic findings suggest that the most significant contribution of this study is not simply that a punch card system worked, but rather that it worked in the way that trauma-informed theory predicts it should: by creating the conditions of felt safety, relational recognition, and achievable structure that allow students who have experienced adversity to re-engage with the institution of school as a place where their effort matters. This is consistent with the central argument of this action research project and reinforces the value of grounding classroom practice in the neurobiological and relational science of trauma recovery.

Limitations

One theoretical limitation of this study concerns the partial application of the TIPE model's three domains. While Brunzell, Stokes, and Waters (2016) argue that trauma-informed teaching must address self-regulation, relational capacity, and psychological wellbeing in an integrated and sequential manner, the punch card system as implemented most directly targeted the first domain, self-regulation through external behavioral scaffolding, and the third, psychological wellbeing through recognition and small successes. The second domain, relational capacity, was present in the interpersonal moments surrounding each punch but was not systematically developed through dedicated relational practices such as restorative circles, structured mentorship, or explicit social-emotional learning curricula. As a result, the findings may underrepresent the full potential of the TIPE model when all three domains are deliberately cultivated. Future research should examine how a more comprehensive TIPE-aligned

intervention, one that pairs positive reinforcement with structured relationship-building activities and explicit wellbeing instruction, affects both behavioral and academic outcomes for trauma-affected adolescents.

A second limitation concerns the length of the intervention. This action research study was conducted across a single semester, a timeframe that is sufficient to observe initial patterns but insufficient to determine whether the changes in attendance, affect, and behavior were sustained over the longer arc of students' academic careers. Research on behavioral and neurobiological change in trauma-affected populations consistently emphasizes that meaningful healing and re-engagement unfold over months and years of consistent relational experience, not weeks (Perry & Szalavitz, 2018). The punch card system may have initiated a process of re-engagement for some students without having the opportunity to consolidate it. Attendance gains, in particular, are vulnerable to regression when external incentives are removed before internal motivation has been sufficiently established. Future studies should follow students across multiple semesters or academic years, examining whether engagement patterns fostered through trauma-informed positive reinforcement persist after the formal intervention period concludes.

A methodological limitation relates to the scope and structure of the student interview data. Interviews were conducted with three to five students, a small sample that, while meaningful, cannot be considered representative of the full class. Moreover, students who agreed to participate in interviews were likely those who responded most positively to the intervention, introducing a self-selection bias that may skew the voice data toward enthusiasm. Students who remained disengaged or who did not complete punch cards were not systematically invited to share their perspectives, leaving a significant portion of the student experience unexamined.

Additionally, behavioral observation data was teacher-recorded rather than independently verified, which introduces the possibility that the positive relational atmosphere created by the intervention influenced the researcher's perceptions of student conduct. Future iterations of this study should incorporate more structured, broadly distributed interview protocols, and should include a secondary observer or a standardized behavioral coding instrument to produce more objective and representative data.

A practical limitation concerns the transferability of this intervention to other classroom contexts. The punch card system as implemented in this health classroom benefited from several contextual factors that may not be reproducible in all settings: a teacher with foundational training in trauma-informed practice, a health curriculum that explicitly addressed the neuroscience of stress and adversity, a relatively small class of juniors and seniors, and a school culture that provided at least tacit support for non-traditional engagement strategies. Teachers working in contexts with larger class sizes, fewer curricular connections to social-emotional content, limited administrative support, or without professional development in trauma-informed practice may find the punch card system less effective or more difficult to implement with fidelity. Future research should examine how this intervention functions when implemented by teachers with varying levels of trauma-informed training, in classrooms of varying size and composition, and within school cultures that differ in their institutional support for restorative and strength-based approaches.

A final limitation concerns the unit of analysis in this study. Because the research was conducted within a single classroom by a teacher-researcher, it does not address how systemic and structural factors outside the classroom, including housing instability, food insecurity, family trauma, and inconsistent access to counseling or mental health services, may have mediated or

moderated the observed outcomes. Positive reinforcement in the classroom can shift the immediate conditions of engagement, but students whose lives outside of school are defined by ongoing adversity face barriers to consistent participation that a classroom intervention alone cannot address. Future research should examine how school-level and community-level supports interact with classroom-based trauma-informed practices to produce, or fail to produce, sustained academic engagement for students with ACE histories.

Conclusion

This action research study set out to examine whether a trauma-informed positive reinforcement strategy, specifically a structured punch card system implemented in a secondary health classroom, could meaningfully improve attendance, motivation, and behavioral engagement for junior and senior students with histories of adversity. The findings suggest that it could, and that the mechanisms through which it worked were as important as the outcomes themselves. Students attended class more consistently not simply because a prize awaited them at the end of a card, but because the system created the conditions of predictability, recognition, and achievable success that trauma-informed theory identifies as prerequisites for genuine engagement. The most powerful finding of the study was not numerical: it was the voices of students describing, in their own words, what it meant to have their effort noticed.

Conducting this study deepened my understanding of what trauma-informed teaching actually requires in practice. It is not enough to know the research or to introduce a well-designed incentive structure. What the data revealed is that the intervention's impact was inseparable from the relational consistency with which it was applied: every student, every period, every punch, handled the same way, with genuine attention and without favoritism. That consistency communicated something to students that the punch card itself could not: that this is

a classroom where the rules are fair, where effort is seen, and where you are worth showing up for. For students who have learned, through experience, to expect otherwise, that message is not a supplement to instruction. It is the foundation on which all instruction rests.

This project reinforced the argument with which it began: that reducing disengagement and supporting academic participation for trauma-affected adolescents is not a problem that behavioral strategies alone can solve, but one that requires the sustained, compassionate, and evidence-grounded presence of teachers who understand why students disengage in the first place. The punch card was a tool. The classroom was a relationship. And it was the relationship, supported and structured by the tool, that made the difference.

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