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Intergenerational Trauma in the Developing Student and Interventions Used

An Honors College Project Presented to
the Faculty of the Undergraduate
College of Education
James Madison University

by Malea Gabrielle Laquihon

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Abstract

The purpose of this review was to identify studies that focus on supporting students with intergenerational trauma (IGT) and the interventions used to minimize the effects of this type of trauma. To do this, we conducted a systematic literature review that identified 16 articles addressing IGT and its impact on school-age children or their parents. In the results of this systematic review, the authors of 12 studies reported the interventions had a positive impact on the participants in their studies. Limitations of the current review, the literature base, and implications for future research are presented.

Keywords: clinic, intergenerational trauma, interventions, students, schools

Intergenerational Trauma in the Developing Student and Interventions Used

According to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014), trauma is best defined as the adverse events in one's life that cause irreparable emotional and physical harm. Moreover, pervasive effects of prolonged trauma range from behavioral problems to chronic health conditions, especially for children from birth to age five who experience extreme adversity. The degree of trauma to which children experience can best be measured through assessing the child's amount of adverse childhood experiences (ACEs), thus providing a means of determining the severity of their experiences and best preparing educators and psychologists with the means of understanding the resiliency of the child (Danese et al., 2010).

A variety of types of traumas can be experienced, ranging from family violence, neglect, emotional abuse, and sexual abuse. Specifically in the children of mothers who experienced sexual abuse, a study revealed 17.6% of these children "became victims of maltreatment by 43 months" (Martoccio et al., 2022). Leckning et al. (2021) found Aboriginal and Torres Strait Islanders children to be six times more likely to experience child maltreatment. Moreover, various types of child maltreatment, most notably physical and sexual abuse, were found to be the root of increased rates of suicide related behaviors (Leckning et al., 2021). As Leckning et al. (2021) found in a study of 6,476 children, over 47.8% were involved with the child protection service before their 12th birthday, with 50 children being hospitalized due to self-harm. In the United States alone, over 15 million children witnessed some form of intimate partner violence (IPV, Ehrensaft et al., 2017). Ehrensaft et al. (2017) reported that a young child's exposure to this type of interpersonal trauma and violence between caregivers disrupts their ability to process

stress, thus increasing the likelihood of posttraumatic stress symptoms and heightened emotional reactivity.

Another type of trauma is known as historical trauma. An example of this issue is the Syrian War. With over 2.4 million Syrian refugee children being displaced due to the war, historical trauma is being examined due to the “significantly higher rates of mental illness” arising in “war-affected” children and their parents (Rizkalla et al., 2020). It is important to note this is only one example of this type of impact from “war-affected nations.” In accordance with Rizakalla et al. (2020), historical trauma is best defined as difficulties and stressors developed and passed through generations due to historical events such as displacement or war. Over 45.6% of Syrian children and adolescents developed PTSD, with more than 82.5% of these children also experiencing more than “four lifetime traumas,” or events that affect the mental well-being across one’s lifespan (Rizkalla et al., 2020). Moreover, the global coronavirus pandemic has shown the beginning signs of historical trauma due to the increase in “levels of depression (14.6% to 48.3%), anxiety (6.33% to 50.9%), [and] stress (8.1% to 81.9%)” across the general population (Xiong et al., 2020, pp.2). In relation to the increase in mental stress a pandemic incites, “more than half of caregivers (55.6%)” engaged in negligent parenting styles (e.g., emotional and physical neglect, depressive behavior) during the first year of the pandemic. Such negligent behavior poses a risk for their children to develop poor emotional regulation skills since their basic emotional needs are not being met (Zhang et al., 2022). Historical trauma is associated with more events in a child’s life besides those who have suffered through war in their countries.

Although incarceration rates are in decline in the United States, the previous era of mass incarceration still impacts the children of those in prison. Such impact is a form of trauma

associated with “higher rates of mental illness, trauma, antisocial behavior, academic challenges, poor physical health, and parental substance abuse.” This is mainly due to the notion of “family resilience” that examines the ability for families to be able to withstand material, physical, and mental hardships (Morgan et al., 2021).

As more research is published centering on trauma amongst children, it has been shown to be more prevalent than previously thought, with over 53-91% of children having experienced at least one trauma type (Martin et al., 2019). Considering this notion of prevalence, the responsibility of trauma identification is placed on teachers since school is where children spend much of their time and is thus the place where they may display effects of trauma. Trauma-informed education practices have long been encouraged to include a sense of “safety, connection, and assurance.” These practices provide structure and routine that can help students manage their stress responses therefore reducing potential escalations (McInerney & McKlindon, 2014). Many of the children that experience high levels of traumatic stress during the perinatal stage, may ultimately demonstrate feelings of “humiliation, guilt, shame, betrayal, or silencing” which contributes to the notion of self-destruction because of poor support systems (SAMHSA, 2014). Moreover, Slopen et al. (2014) enumerated that “excessive or prolonged activation of stress” harms the regulatory skills of not only behavioral conditions but mental capacity to handle situations of stress therefore causing the child to experience instances of emotional overload where they begin to exhibit behavioral issues when confronted with seemingly mundane problems (p. 2). Without appropriate trauma-informed measures or therapies, the child risks carrying negative behaviors and/or faulty coping mechanisms into their adult life affecting their ability to be an effective parent and increasing the likelihood of reestablishing the cycle of trauma (Slopen et al., 2014).

Intergenerational Trauma

In the existing literature, intergenerational trauma (IGT) is best defined as trauma experienced in an individual's lifetime that negatively affects their ability to regulate emotions and stress responses, thus prompting unhealthy coping mechanisms that their children mirror (Cho et al., 2020). A defining characteristic of intergenerational trauma is its cyclical nature that spans generations due to the detrimental effects of trauma that can hinder positive parenting behaviors if left untreated. High ACEs scores are associated with chronic trauma that is perpetuated through prolonged periods of toxic stress. As mentioned above, toxic stress as viewed through an IGT lens is the "prolonged activation of stress response systems" due to a lack of supportive protective relationships, specifically parental relationships. When this period of toxic stress occurs in early childhood, the brain circuit development and metabolic systems are effectively disrupted, resulting in poor regulation skills, high levels of anxiety, and an increased risk of repeating the "cycle of childhood adversity, child abuse and neglect, and poor parenting behaviors" (Kottenstette et al., 2020, pp. 1-2).

For the student experiencing IGT, feelings of overwhelming responsibility, self-doubt, inability to keep up with school, and lack of confidence permeate in their academic achievement in both positive and negative ways, depending on the student. Some students may respond to their trauma by pushing themselves academically and socially while others fall behind their peers. The determining factors behind positive or negative outcomes are students' coping mechanisms and trauma responses. Schools can be sources of stress triggers that overwhelm the traumatized student and activates the trauma response they emulate at home (Gaywish & Mordoch, 2018). A determinant of a student's ability to self-regulate and compose their memory hinges on executive functioning skills (EF), which is the developmental ability to establish

“working memory, inhibitory control, and cognitive flexibility” (Chen et al., 2020). In other words, a child with poor EF can exhibit signs of behavioral and emotional problems, particularly when they are exposed to traumatic events. Further, a parent’s poor EF skills are associated with a lower EF in their children since the parent has a higher likelihood of having difficulty responding to their child’s needs since they are still regulating their emotions while having a “reexperiencing of traumatic events” (Chen et al., 2020). Because trauma can be transmitted through “complex and subtle pathways through interpersonal relationships, family dynamics, and community groups,” schools can mimic conditions that can induce triggers for traumatized students (Shonkoff et al., 2012). Thus, Shonkoff et al. (2012) suggested school is a constant source of stress reactivity, moments that trigger stress responses, that can affect students’ academic and social performances.

Parenting behaviors can be grouped in two dimensions, support and control, which is associated with their previous traumatic experiences and determines their children’s “positive or negative behavioral aspects.” Parental levels of support and rejection determine the level of delinquency found in their children (Hoeve et al., 2009). More frequently, a connection remains between parents who have symptoms associated with post-traumatic stress disorder (PTSD) and IGT itself. Across the literature, PTSD and its symptoms are best defined as “increased arousal and avoidance of stimuli associated with the trauma”, therefore making it possible for parents with PTSD to unwittingly transmit their “psychological reactivity” to their children (Frazier et al., 2009). Frazier et al. (2009) defined psychological reactivity as intense psychological distress as a result of distressing events. The regulatory issues associated with parents or specifically mothers with PTSD leads to a constant “trigger” of their psychological symptoms each time “routine distress” in their children is exhibited (Schechter et al., 2014).

In Martoccio et al.'s (2022) study, overall “child victimization” of maltreatment as a result of the presence of intergenerational trauma has seen a 28% “upturn” as compared to their previous study in 2011. Moreover, maternal history of maltreatment or abuse has been found to double their child’s risk of victimization throughout their life (Madigan et al., 2019). Such a trend in the victimization of children with trauma-exposed parents reflects the “social isolation” present in victims of trauma that contributes to the lack of mental health reprieve due to the mindset of isolation that drives away the desire to get professional help (Martoccio et al., 2022).

Based on the litany of challenges children experiencing IGT face, the purpose of this systematic review was to identify studies that focus on supporting students with IGT and the interventions used to assuage the effects of this trauma. The following questions guided our research: (1) What are the interventions being incorporated in the PreK-12 classroom to combat the effects of intergenerational trauma?, (2) How does intergenerational trauma affect the learner physiologically and psychologically?, (3) What impact does intergenerational trauma have on student development and achievement in the elementary classroom and later in life?

Method

Study Identification Procedure

We identified research articles for this literature review through the following procedures. First, we conducted a search of articles in *Educational Resources Information Center* (ERIC), *PsycNET*, and *PRO Quest*. These searches were conducted using the Boolean string: (generational trauma OR intergenerational trauma OR transgenerational trauma OR multigenerational trauma) AND school AND student AND intervention. Additional limitations were set to identify scholarly journal results in English. With this Boolean string and set limitations, 1,760 articles were identified for further review. The identification process entailed

reading titles, abstracts, and method sections for each of the potential articles to identify those meeting initial inclusion criteria.

Eligibility and Criteria for Selecting Articles

To determine eligibility, coders organized the articles through three domains: (1) generational trauma, (2) experimental, and (3) Pre-K–12th grade students. To meet these criteria we had to answer the following questions: 1) Is the paper examining supporting students who experience generational trauma with a methods section outlining their procedures?, 2) Is this paper experimental in nature (i.e., did the authors intervene and report the outcomes)?, and 3) Does this paper include students from Pre-K–12th grade students settings? Articles were excluded if they did not focus on generational trauma, were not experimental in nature (e.g., literature reviews, qualitative), and/or did not focus on Pre-K-12th grade student populations. See Figure 1 for a flow diagram highlighting the article procurement steps that led us from 1,765 to 16 articles meeting inclusion criteria.

Study Coding Manual. A coding manual was developed to facilitate and organize data extracted from included studies that qualified for evaluation. The coding manual consisted of eligibility criteria. Each area of the coding manual included a list of code prompts, codes, code descriptions, and scoring procedures. The screening criteria were developed to support coders in determining whether the chosen study should be reviewed or whether it was not appropriate for the present study and why it had been marked ineligible. Providing a reason why a particular study was not included was essential for both reporting and organizational purposes.

Study Coding Procedures. The following domains were used in accordance with common themes of the studies analyzed and previous systematic reviews on similar subjects. Nine domains were created to code study characteristics including: (1) intervention name; (2)

intervention description; (3) identification of trauma; (4) number of participants; (5) participant characteristics; (6) setting characteristics; (7) intervention characteristics; (8) outcome variables; and (9) methodological features. Six domains were created to code participant and setting characteristics in further detail: (1) participant sex; (2) participant age; (3) participant grade level; (4) participant ethnicity; (5) participant disability; and (6) participant setting. Five domains were developed to code outcome variables: (1) academic engagement; (2) disruptive behavior; (3) social skills; and (4) effect size.

Results

Participants and Setting Characteristics

Across the 16 articles identified for this review, 5,934 individuals were included as interventions or studies that targeted the effects of IGT on school age children. Of these individuals, 2,131 were reported to be male and 2,899 were reported to be female. The male population consisted of 2,080 children and the female population consisted of 2,346 children. Burke and colleagues (2021) (44.9% male and 55.1% female), Jakubovic & Drabick (2020) (50.5% male and 49.1% female), and Narayan and colleagues (2019) (51% male children) reported percentages rather than figures of male and female participants. The age range for the studies was 4.1 months to 69.7 years. Stokes and Brunzell (2019) did not report any participant characteristics. Across the studies, two interventions were conducted directly in the schools and 14 took place in a clinical setting.

Out of all analyzed articles, six studies did not report participant ethnicity. Only Marsh and colleagues (2018) recorded the ethnicity of their participants using exact figures, with 16 Ojibway, two Cree, and seven Métis. The remaining studies reported the following ethnicities of their participants using percentages. Bellamy et al. (2022) and Leve et al.'s (2015) studies,

reported 80% and 0.06% of participants to be Native American. Over 95% of those in Jakubovic and Drabick (2020), 20.6% of Narayan et al. (2019), 14.7% of Lieberman et al. (2006), and 1.8% of Leve et al. were identified to be African American. The LatinX population across Lavi et al. (2015), Narayan et al. (2019), Lieberman et al. (2006), Van der Berg et al. (2019), and Jakubovic and Drabick were 86%, 54.6% (mothers), 50.8% (children), 28%, 5%, and 4%. All of the participants in Kelley et al.'s (2020) study were American Indians. Participants were grouped as other in the Lavi et al., Louis et al., Lieberman et al., and Narayan et al. articles, comprising 14%, 9%, 2.7% (mothers), 2.7%, and 1.6% (children) of their respective totals. White participants in the studies were found to make up 97% of Van der Berg et al., 68% of Leve et al., 17.8% (mothers) and 14.1% of Narayan et al., and 9.2% of Lieberman et al. Moreover, Leve et al.'s study was the only one to include a 11.4% Hispanic population. Further, Leve et al. included a total of 0.06% Asian participants, with 6.7% also in Lieberman et al., 5.4% (mothers), and 4.3% (children) in Narayan et al.'s study. The mixed population was reported in Lieberman et al. (38.7%), Leve et al. (16.9%), Narayan et al. (9.2% of mothers, 18.9% of children), and Van der Berg et al. (2%). The study by Louis and colleagues (2021) was the only to report a 67% Chinese, 9% Malaysian, and 15% Indonesian population.

Dependent Variables and Independent Variables Identified

Research Question One and Two

During our selection of articles, we focused on interventions that sought to improve the domains of behavior, academic achievement, social skills, and mental health. A majority of studies examined multiple domains and were thus categorized based on the domain of most relevancy or individuality. Throughout the 16 articles, six were found to focus primarily on behavior changes as a result of the interventions used. In three of the studies focusing on

behavior, parents and their change in behavior was specifically recorded with the other three pertaining to the behavior of children-parent dyads. Further, the Narayan et al. (2019) study used the Angels in the Nursery (AIN) interview process to target the negative childhood memories that affected their behavior as parents. Similarly, Burke and colleague's (2021) study focused on providing an educational resource for parents to understand the important parenting behaviors of "containment, reciprocity, and behavior management." Another intervention used to help improve parent behavior was completed by Marsh et al. (2018) and comprised of a healing sweat lodge and indigenous healing practices as a means of containing their substance abuse disorders (SUD). As far as the interventions used for child-parent dyads, Van der Berg et al. (2019) employed an Emotional Faces Task (EFT) that examined their responses to emotional faces which effectively allowed Van der Berg et al. to analyze the lasting effects of IGT and how to best help improve their stress responses. Lieberman et al. (2006) employed Child-Parent Psychotherapy (CPP) in order to alleviate the issues of self-regulation behaviors in parents and their children who experienced some form of marital violence.

Academic achievement was a focus of four articles, with two centering around student achievement and the other two relating to the improvement of student achievement due to parental involvement/improvement. Leve et al. (2015) implemented the Treatment Foster Care Oregon (TFCO) intervention that closely followed the social and academic progress of girls placed in the foster care system over a 24-month timeline through crisis intervention services and supports. Furthermore, Kiviruusu et al. (2016) incorporated the Together at School (TAS) intervention that specifically promoted socio-emotional learning practices that sought to improve academic performance in students. Reciprocally, Havinghurst et al. (2021) incorporated Tuning in to Kids (TIK) as a parenting program that taught parental skills in emotional regulation and

awareness. This study aimed to improve the academic achievement in the children of parents who participated in the program. Stokes and Brunzell (2019) further studied Trauma-Informed Positive Education (TIPE) in the classroom which had teachers exercising trauma-informed practices in their teaching, overall hoping to improve student achievement.

For the studies focusing on an improvement of social skills because of interventions, we found one article highlighting the student improvement of social skills and two articles delineating parental improvement of social skills. As earlier mentioned in the domain of academic achievement, Kiviruusu et al. (2016) examined the TAS intervention as a means of improving the tenacity of the student, including their development of social skills and interactions with peers. Parents in Louis et al. (2021) study underwent a Good Enough Parenting (GEP) therapy-based program where parents were presented a parenting socialization process that sought to improve the way they interact with their peers and children. Furthermore, fathers in the study conducted by Kelley et al. (2020) connected with their cultural identities and communities through the Good Road of Life (GRL) training. The GRL training was developed to promote resilience through Native culture and community socialization to break the cycle of trauma.

Across the identified articles, five concerned the mental health of the participants improving because of interventions used. For the sake of cohesiveness, we used mental health as a broad term to include well-being, physical characteristics, and parenting. One article focused only on student mental health, with the four other articles including both student and parental mental health. Through an analysis of infant cortisol activity, Zietlow et al. (2019) measured the level of mental stress children experience because of their mothers enduring traumatic stress during pregnancy. Stokes and Brunzell (2019) used TIPE as a trauma-informed pedagogical

process meant to increase the psychological resources for student and parental mental well-being. In terms of the parent-child dyad, Lavi et al. (2015) deployed the common intervention of (CPP) which provided children and their parents exposed to Intimate Partner Violence (IPV) the proper therapy and parenting tools to cope with their trauma and thus improve their mental health. On the more clinical side, Jovanovic et al. (2011) conducted a startle response study where the stress of parents and their children were piqued and then examined based on heart rate, their electrocardiogram response, and respiration. Each of these measurements was meant as the basis for intervention based on their degrees of mental stress. Further, Jakubovic and Drabick (2020) used a Working Memory (WM) model of intervention in a community of parents and children who experienced community violence exposure (CVE). As defined by Jakubovic and Drabick, WM is best defined as the executive functioning used to control inhibitory, cognitive, and emotional regulation. Thus, this study aimed to enable participants to develop behavioral and emotional control through the usage of WM mechanisms.

Trauma Type

Research Question Two

Throughout the studies, various types of traumas under the broad IGT category were found. Over 10 of the studies explicitly looked at Intergenerational Trauma Broad (IGB) and defined it as psychologically traumatic events parents experience that affects their parenting behaviors and thus transmits the effects of trauma to their children. In the 10 studies that include IGB, five describe specific forms of IGB that increase the chances of IGB being perpetuated across family paradigms: violence related behaviors, mental health, and substance abuse disorders (SUD). In terms of violence, Lieberman et al. (2006) depicts the harmful effects of IGB but further describes how witnessing marital violence specifically raises the risk of continued

violence. Maternal mental health and presence of PTSD symptoms during pregnancy is enumerated in Jovanovic et al. (2011) to be an additional component to the stress of IGB and is studied through the analysis of the parent-child startle responses. Similarly, Kelley et al. (2020) focused on preventing the IGB spread of negative paternal behaviors as a result of mental strife in the Native community. Additionally, Marsh et al. (2018) provided interventions to help indigenous men struggling with SUD and prevent the risk of addiction in their children. The rest of the studies looking at IGB did not specifically state the type of traumas experienced by parents or included a diverse set of participants who each had different traumatic experiences.

Across three of the studies concentrated on what we categorized as trauma broad (TB). In these articles, TB was best characterized by interventions conducted with participants who experienced traumatic life events to prevent the spread of IGT. A main difference between the TB grouping and IGB is in their intervention tactics. The studies categorized as TB emphasized the prevention of IGT from spreading as early as possible while many of the IGB studies focused on alleviating behaviors and consequences of IGT. The following studies addressed specific traumas that encompass the effects of IGT with only one type of trauma addressed. In particular, Lavi et al. (2015), focused primarily on IPV and how children who experience this form of violence develop a greater risk for being in violence related situations. This study contained the key components of IGT but centered around IPV and how it is cyclically related. Van der Berg et al. (2019) addressed the prevalence of Child Abuse and Neglect (CA&N) and how it can damage the socialization, regulation, and emotional health of the children involved. Moreover, Jakubovic and Drabick (2020) concerted their study on CVE and how it can propagate violence across generations.

Outcomes

Research question three

Across our analysis of the 16 studies, 12 reported a positive impact on the participants. When using the GEP model of intervention, Louis et al. (2021) documented an increase in parental patience and intentionality which thus improved their ability to parent reflexively and appropriately respond to child interactions. Narayan et al.'s (2019) AIN intervention provided parents with more positive angel memories that appropriately buffered against PTSD symptoms and improved their parenting behaviors. Additionally, the CPP in Lavi et al.'s (2015) study was found to afford parents with a decrease in depression and allow for better coping and communicative behaviors between the parents and children. In Jakubovic and Drabick's (2020) WM intervention, higher participation with the WM models was shown to result in lower aggression in high-risk youth. Stokes and Brunzell's (2019) TIPE study resulted in overall student improvement in areas of academic, social, and emotional development. The American Indian fathers in the Kelley et al. (2020) study reported positive effects on their parenting behaviors and coping mechanisms as a result of the GRL programming. Similar to the Lavi et al. study, the CPP in Lieberman et al. (2006) demonstrated improvements in the behavior of the children of the study and overall maternal symptoms of PTSD. When using the IHSS to address Indigenous trauma, Marsh et al. (2018) conducted interviews that affirmed participant reporting of restoration and healing because of the indigenous sweat lodge. Van der Berg et al. (2019) used their EFT to document amygdala response to stress. They reported adults who experienced childhood neglect to experience enhanced bilateral amygdala activation in response to fearful faces, thus exemplifying their hypervigilance. Conversely, the children of the study did not exemplify this amygdala response, most likely indicating their brains being caught in a state of emotional avoidance due to their developing brain chemistry (Van der Berg et al., 2019). Across

the third and fourth grade class studied in Bellamy et al. (2022), an overall improvement in student behavior and achievement was reported due to TIBS. As a result of the UYCBP intervention being utilized to improve child-parent interactions, Burke et al. (2021) concluded a reduction in perceived stress and increase in parental self-regulation. Likewise, the TF-TIK intervention used in Havinghurst et al. (2021) successfully targeted parent emotion socialization and parent-child relationship, with an increase in parent empathy and emotion coaching.

In the four remaining studies, two reported insignificant/inconclusive results and two reported negative/mixed results. For the studies with insignificant/inconclusive results, Kiviruu et al. (2016) implemented TAS as a way of improving student mental health in a trauma informed perspective, however, this study reported no significant improvements in the socio-emotional health of the students over a six-month period. Jovanovic et al. (2011) similarly used a startle response study that was meant to collect data on cardiovascular reactivity when placed under stress. There was no direct correlation found between reported child-rearing experiences and the child's response, possibly due to mothers not being completely transparent about their possible negative parenting attributes (Jovanovic et al., 2011). Leve et al. (2015) reported a mixed outcome for the TFCO intervention used to support girls in the foster care system, with over 30-32% engaging in some form of maltreatment in their youth and then 42% continuing the IGT cycle. As mentioned in the study, it is important to keep in consideration that this type of intervention may not have worked for each participant and only points out the need for other interventions to be offered since only 9% of girls in the foster care system receive any type of support (Leve et al., 2015). Additionally, Zietlow et al. (2019) had conflicting responses to the FSSF intervention, with infant stress being loosely related to emotional stress of pregnant mothers in the experimental group but not the control.

Discussion

With the reality of the pandemic and mass acts of violence in PreK-12 schools, understanding IGT and its impact on students becomes imperative to ensure student socio-emotional and academic success. The overarching purpose of this systematic literature review was to highlight studies incorporating interventions that target the relief of IGT and its effects, specifically in PreK-12 students and their parents and or caregivers. Across all studies examining IGT, traumatized parents were found to pose a risk of subconsciously deteriorating the psychopathological development of their children through a promotion of collective fear, dysfunctional familial roles, lack of healthy communication skills, and a tendency to develop addictions (Chou & Buchanan, 2021).

After reading, coding, and analyzing the identified 16 studies, the complexity of IGT revealed to be a sharp undercurrent in the largely misunderstood and contradictory results of various studies. This sense of confusion most likely stems from the lack of early preventions that specifically target IGT. Only three of the 16 studies focused primarily on treating early symptoms of IGT to prevent the generational transference of trauma before they have children. This trend in intervention type most likely exists due to the often-nuanced behavior and emotional responses of individuals experiencing trauma and the wide-range of triggers associated with them. In the five studies that reported inconclusive or negative results, all included statements admitting to the difficulty in identifying appropriate response times and intervention types in accordance with the varied types of traumas experienced. Such a finding prompts the need for tiered interventions that alleviate specific traumas to best prevent its continuation.

More interventions and studies on trauma responses need to be conducted, especially in school settings where many of these effects are first emulated. Of the 16 studies, only three investigations were conducted in the school setting, thus contributing to the clinical approach often used against a phenomenon that manifests itself heavily in school-related behaviors and socializations. Furthermore, two of the school setting interventions reported a positive change, with one having inconclusive results due to a smaller follow-up period. Since IGT is a concern that deals with parent-child relationships, it is reasonable that the parent-child dyad is the main focus of many of these studies. However, as McInerney and McKlindon (2014) delineated, a trauma-informed approach in school systems can effectively promote healthy communication, boundaries, self-regulation, and conflict resolution. Therefore, school-related interventions are essential towards breaking the cycle of IGT and promoting resilience in an academically structured setting.

In addition, a notable divisive pattern across the articles is the separation of psychological and physiological effects in the interventions utilized. As emphasized in the studies, the physiological and psychological effects of IGT are intertwined, but only one of the studies addressed both through its intervention. Moreover, the studies focusing on physical symptomology, tended to collect their evidence supporting the presence of IGT but neglected to offer effective interventions to target the physiological symptoms found. For example, Jovanovic et al. (2011) used an experimental startle paradigm that connected parent-child physiological responses to stressors to prove the generational transmission of trauma/stress. However, the conclusion afforded in this study was an implied proof of physical effects of trauma instead of offering suggestions for varied future interventions. Therefore, it is clear that researchers

acknowledge the connection of symptoms, but a disconnect exists in the literature about how to best address each aspect of IGT effectively.

Limitations of this Review

Throughout the culmination of this systematic review, several factors contributed to the notion of attention needed to be directed at the following limitations. First, the quality and rigor of the studies analyzed were not evaluated in depth. As noted in the eligibility and criteria section, studies were included based on whether they pertained to generational trauma, were experimental in nature, and involved PreK-12 students and/or their parents. Based on these criteria, the quality and rigor of their interventions were not a contributing factor on whether they were incorporated in the review. Second, the criteria used for this review resulted in a total of 16 studies. This is a small map of possible studies/interventions and thus not reflective of every intervention or study that can help the effects of IGT improve. This also suggests there are studies that may have not been included based on the exclusion criteria even though the methods of the study can be applied in cases of IGT. This overall number of analyzed studies is to be expected with the details of the exclusion criteria and the resulting literature review should be interpreted with this in mind. Finally, there exists multiple names for IGT (e.g., historical trauma, generational trauma, multi-generational trauma) which could have resulted in articles that pertained to the same phenomenon as IGT being excluded from the review due to a differing name. As mentioned earlier, the complexity and broad nature of IGT and its varied effects caused no true universal name to be applied and made the selection of the articles difficult. Without the overall understanding of the multi-faceted names of IGT, the conclusions found in this review are based on those identified but may not be representative of all available literature on the subject.

Limitations of the Literature Base

Across the literature, IGT was found to be a type of umbrella term that encompassed complex traumas ranging from emotional neglect to historically traumatic events. The degree of subjectivity when it came to determining IGT resulted in limited understanding on the true guidelines on how to best manage trauma. It is suggested that authors provide alternative names and definitions of IGT in their studies due to the varying types of traumas that can occur under the broad term of IGT. Due to the complexity of trauma itself, different forms of trauma require various treatments to address its long-term concerns and effects. Additionally, the reliability of the data concluded from the studies was impacted by the small follow up period used by researchers. Kiviruusu and colleagues (2016) specifically highlighted this weakness, with behaviors in a school setting being evaluated only six months after the intervention was implemented. Because behavior is such a complex subject and often requires long periods of structure and stability to see noticeable improvements, this study did not properly convey the success of the intervention. Based on our findings, it is important for future researchers to follow up with students to evaluate the true effective nature of interventions used to prevent the furtherance of IGT. In addition, some identified patterns found in studies, such as the previously mentioned startle responses from Jovanovic et al. (2011), did not include specific ways to improve the study or future interventions. Such vague conclusions were echoed in the Narayan et al. (2019) study that pointed out the way angel memories help parents assuage the effects of their PTSD but did not include how to best incorporate these angel memories for future use. Therefore, it is suggested researchers further examine the way in which other practitioners or those implementing interventions can best improve based on the evidence gathered in their study.

Based on this review, it is difficult to say what teachers/practitioners can implement to best break the cycle of IGT due to conflicting methods of data collection and unreliability of results based on confusing wording. Furthermore, the overall review of the literature included wide arrays of participant makeup with some experiencing specific traumas, such as trauma from parental involvement in the Holocaust, and others being broadly grouped into trauma categories without specificities given. Therefore, it became difficult to group these participants and their responses to interventions when their defining characteristics varied so greatly and were not addressed in depth during their respective discussions. As a result of this culmination of inconsistent conclusions, future researchers should be addressing their interventions in the context of future use and be properly depicting the audience for which the interventions should be performed.

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Table 1*Study Characteristics*

Author	# of participants	Sex	Age	Int	TT	Setting	DV	Ethnicity
Bellamy et al. (2022)	23 staff, 130 children	M(ch)- 42 F(ch) - 23 Staff - NR	m (staff) = 43 yrs	TIBS	IGB	School	bx	NA = 80%
Burke et al. (2021)	391	M- 44.9% F- 55.1%	m -30.2 yrs r-(12 to 45 yrs)	UYCBP	IGB	Clinic	bx	NR
Havighurst et al. (2021)	P - 77 C - 77	M(ch) - 41 F(ch) - 36 P - NR	m - 35.1years (P) r - 3 to 15 yrs	TK-TIK	IGB	Clinic	Att and bx	NR
Jakubovic & Drabick (2020)	104	M – 50.5% F- 49.1%	m - 9.92 yrs r- NR	WM	CVE	Clinic	bx and MH	AA – 95% L – 5%
Jovanovic et al. (2011)	36 mo 36 ch	M (ch) - 18 F (ch)- 18 F (mo) - 36	m - 9.4 yrs r- (6 to 13 yrs)	Startle responses	IGB	Clinic	Physical and bx	NR
Kelley et al. (2020)	60	M – 60	m- NR r- (20 to 55 yrs)	GRL	IGB	Clinic	bx and SS	AI – 100%

Kiviruusu et al. (2016)	3704	M- 1800 F- 1904	m- 8.1 yrs r- NR	TAS	TB	School	AE, bx, and SS	NR
Lavi et al. (2015)	116	F- 116	m- 27.48 yrs r- (18 to 40 yrs)	CPP	IPV, PTSS	Clinic	bx and parenting	L – 86% O- 14%
Leve et al. (2015)	166	F - 166	m – 13.51 yrs r - (13-17yrs)	TFCO	IGB	Clinic	AE and bx	W = 68% AA = 1.8% H = 11.4% NA = 0.6% A = 0.6% Mix = 16.9%
Lieberman et al. (2006)	150	M – 36 F - 114	m - 4.06 yrs r – (3-5yrs)	CPP	IGB	Clinic	bx	Mix = 38.7% L = 28% AA = 14.7% W = 9.2% A = 6.7% O = 2.7%
Louis et al. (2021)	55	M – 28 F - 27	m - NR r - (30 to 50+ yrs)	GEP	TB	Clinic	bx and SS	CH – 67% Ma – 9% In – 15% O – 9%
Marsh et al. (2018)	24	M = 12 F = 12	m - 35 yrs r - (24-68yrs)	IHSS	IGB	Clinic	bx	OJ = 16 Cree = 2 Métis = 7

Navaran et al. (2019)	185 mo 185 c	M(c) - 51% F(m) -185	m - 30.67 yrs (mo), 42.51 mon (ch) r - (17 mon to 46 yrs)	AIN	IGB	Clinic	bx	Mothers: L = 54.6% AA = 10.3% A = 5.4% W = 17.8% B/M = 9.2% O = 2.7% Children: L = 50.8% B/M = 18.9% W = 14.1% AA = 10.3% A = 4.3% O = 1.6%
Stoke & Brunzell (2019)	NR	NR	NR	TIPE	IGB	School	Ln and wb	NR
Van der Berg et al. (2019)	100 P 71 ch	M(ch) – 28 F(ch) - 43 M(P) - 45 F(P) - 55	m - 46.6 yrs (P), 19 yrs (ch) r – P: (26.6-69.7yrs) ch: (8.3-37.0 yrs)	EFT	CA&N	Clinic	bx	W = 97% L = 4% Mix = 2%
Zietlow et al. (2019)	122 mo 122 infants	M(ch) - 21 F(ch) – 42 F(mo) - 122	m- 4.1 mon (ch), 32.4 yrs (mo) r- NR	FSSF	TB	Clinic	physical	NR

Note: AA= African American; A = Asian; AE = academic performance; AI = American Indian; AIN = Angels in the Nursery; Att = attention; B/M = biracial/multiracial; bx = behavior; CA&N = Child Abuse and Neglect; ch = child; CPP = child-parent psychotherapy; CVE = community violence exposure; EFT = Emotional Faces Task; F = Female; GEP = Good Enough Parenting; GRL = Good Road of Life; H = Hispanic; IHSS = Inner Healing Sweat Lodge; IGB = Intergenerational Trauma Broad; In = Indian; IPV = Intimate Partner Violence; L = Latina/o; Ln = learning; Ma = Malaysian; m = mean; M = Male; MH = mental health; mo = mothers; mon = months; NA = Natural Aboriginal's; OJ = Ojibway; r = range; PTSS = SS = Social Skills; TFCO = Multidimensional Treatment Foster Care; TAS = Together at School; TB = trauma broad; TIBS = Trauma-Informed Behavior Support; wb = well-being; WM = working memory

Table 2*Interventions Identified*

Intervention	Definition	Used in
TIBS	“The trauma-informed behavior support (TIBS) program (Ayre and Krishnamoorthy, 2020) is a multi-tier program aimed at integrating trauma-informed care principles with positive behavior support practices.”	Bellamy et al. (2022)
UYCBP	“ <i>Understanding Your Child’s Behavior Program</i> (UYCBP), has been developed based on the Solihull Approach and aims to instill the importance of three core principles of containment, reciprocity and behavior management (Douglas & Ginty, 2001).”	Burke et al. (2021)
TK-TIK	“Trauma-Focused Tuning into Kids (TF-TIK) is an extended version of the original TIK program delivered in ten, two-hour, weekly sessions by two facilitators (psychologists or social workers trained by the TIK developers), using a structured manual [29] for eight of the ten sessions.”	Havighurst et al. (2021)
WM	“WM in particular refers to the collection of cognitive processes that allow for the ability to temporarily access information for use in some mental task.”	Jakubovic & Drabick (2020)
Startle responses	“The experimental paradigm began with a 2-minute acclimation period during which no startle probes were delivered, followed by a startle habituation segment, and a dark-enhanced startle segment that occurred without interruption. These measures provide more detailed insight into cardiovascular stress reactivity compared to heart-rate; they have frequently been measured in children and adolescents and have been associated with both acute anxiety.”	Jovanovic et al. (2011)
GRL	“Good Road of Life is a culture and resilience-based curriculum designed to use the sources of strength that Native people possess, including spirituality, culture, and humor, to assist in the development of personal wellness, leadership, healthy relationships, and family.”	Kelley et al. (2020)
TAS	“Together at School is a universal intervention program designed to promote socio-emotional skills among primary-school children. It is based on a whole school approach and implemented in school classes by teachers: Circle time, Do-It-Myself lesson, Do-It-Together lesson, and teacher-child individual discussions.”	Kiviruusu et al. (2016)
CPP	“CPP is a multi-theoretical intervention that integrates theories of attachment, psychoanalysis, and complex trauma with clinical strategies derived from cognitive-behavioral and social- learning therapies.”	Lavi et al. (2015)

TFCO	“TFCO girls were individually placed in one of 22 highly trained and supervised homes with state-certified foster parents.”	Leve et al. (2015)
CPP	“Child-parent psychotherapy (CPP) is a relationship-based treatment that showed efficacy in decreasing behavior problems and symptoms of posttraumatic stress disorder among both children and their mothers in a culturally diverse, low-income group of preschoolers exposed to marital violence and their battered mothers when they were compared with a control group receiving a combination of case management and individual psychotherapy”	Lieberman et al. (2006)
GEP	“Good Enough Parenting targets parents with children from infancy to late adolescents / young adulthood. Practical points are given which are age-specific in order to meet parenting needs at different ages.”	Louis et al. (2021)
IHSS	“The Inner Healing Sweat Lodge consists of four facilitators and two students were selected to lead the Seeking Safety groups, which for our purposes were called sharing circles. The Elders advised that these individuals should be Indigenous and have experience working with Indigenous Peoples.”	Marsh et al. (2018)
AIN	“The term “angels in the nursery” describes a parent’s memories of loving childhood experiences with a caregiver that may serve as guiding models for nurturing the parent’s offspring.”	Navaran et al. (2019)
TIPE	“TIPE was conceived as a pedagogical practice model for teachers to learn as a whole-school approach to supporting trauma-affected students and is predicated on three domains: (domain 1) increasing self-regulatory abilities, (domain 2) increasing relational capacities, and (domain 3) increasing psychological resources for student wellbeing.”	Stoke & Brunzell (2019)
EFT	“Maltreated children were shown photos of various emotional faces and were then tested on their amygdala reactivity to both neutral and emotional faces.”	Van der Berg et al. (2019)
FSSF	“At first assessment, the Face-to-Face Still-Face paradigm (FFSF; Tronick et al., 1978) was videotaped. The FFSF paradigm consists of three episodes, 2 min each (for a detailed description see Tronick et al., 1978).”	Zietlow et al. (2019)

Figure 1

Flow diagram for article procurement

