Roles of Schools and Educators in Supporting Resilience in Young Children after Disasters

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Abstract

The increasing frequency and severity of natural and human-induced disasters have had detrimental effects on global populations, resulting in heightened human suffering and disruptions to social structures. This paper explores the multifaceted impact of disasters, encompassing both natural hazards and unnatural disasters, on children and the role of schools and educators in mitigating these effects. While the immediate concern during crises is children's safety, there are ways to protect and support resilience in young children.

Schools hold significant importance as centres for education, socialization, and economic development, and their role in disaster response and recovery is crucial. Schools provide a sense of normalcy and continuity for communities affected by disasters. However, many schools lack the necessary preparedness, and physical structure in some cases, to effectively respond to these events, and educators often find themselves as first responders without adequate training.

The paper underscores the need for comprehensive disaster skills training for educators and school staff, ensuring they are equipped to address children's psychological, emotional, and educational needs before, during and after disasters. Additionally, schools can serve as a 'place attachment' for children which aids in disaster preparedness, processing traumatic experiences, and fostering resilience and recovery.

This *Bridging the Gap* paper highlights the urgent need for proactive measures in education including disaster-focused training, robust disaster management plans, and the

integration of resilience-building strategies. By prioritizing children's well-being and leveraging the pivotal role of schools and educators, communities can enhance their capacity to cope with, respond to, and recover from disasters, ultimately promoting greater overall resilience.

Keywords: hazard**,** disaster, resilience, children, schools, educators

Introduction

Natural disasters due to the changing climate have negatively affected people around the globe, increasing human suffering and disrupting social structures. Furthermore, unnatural disasters, phenomena not attached to earth's processes that may cause death and damage, pose additional threats to society (World Bank, 2010). In the moment of a crisis, the immediate concern is for children's safety, thus for this paper, we refer to disasters to encompass both the natural and unnatural, causing disruption to everyday life (Chmutina & von Meding, 2022). Disasters cause harm to schools and the school community. In Northwest Territories and Yukon, for example, schools built on melting permafrost will need to be rebuilt due to thawing and slumping, in Toronto, a lack of adequate air conditioning in buildings is causing children to miss school due to extreme heat, and schools are being used as shelters outside of the school year (Sawyer et al., 2020). Educators in the United States also believe that if climate change and its outcomes of corresponding disasters have not yet impacted their school community, they will soon (Prothero, 2022).

Communities rely on schools as children's educational, social, and economic developmental hubs, and schools can be safe and caring environments in a disaster, highlighting their importance in supporting children's resilience and rebuilding communities (Alpen Institute, 2021; Mirzaei et al., 2021). Schools and educators are often regarded as trusting spaces and individuals, thus, schools become a haven, educators' roles surpass traditional classroom teaching, and caring educators regularly monitor their students' well-being, inherently nurturing

resilience during a disaster (Brooks & Goldstein, 2008; D'Emidio-Caston, 2019; Gardner & Stephens-Pisecco, 2019). Supporting children's social and emotional health can foster childhood and community resilience post-disaster (Edmeade & Buzinde, 2021). When an educator is first on the scene after a disaster, there are many factors for them to consider, but they can only rely on their available resources and skills.

Disasters disrupt everyday life. In this paper, some examples of disasters can be considered natural hazards attributed to the global climate crisis, such as fires and floods, or unnatural disasters, such as accidents, pandemics, political violence, and poverty (Chmutina & von Meding, 2022; Kong, 2020; Southwick et al., 2014). The primary objective of this literature review is to inform emergency managers and school policymakers of how schools and educators can support resilience in early learners before, during, and after disasters. In addition, the outcomes of this project are intended to be a source of information for elementary educators to solidify the value of developing resilience in early elementary students.

Role of Schools in Disasters

Schools exist as meaningful environments for children and their communities; therefore, ensuring that schools remain open or open as quickly as possible post-disaster as an educational environment provides a sense of normalcy for the affected community (Mirzaei et al., 2021; Pacheco et al., 2022; Seyle et al., 2013). Masten (2015) reiterates that "schools are a powerful symbol of normal life in societies," which is why they are so significant after a disaster or tragedy (p. 218). However, if schools and their staff are not prepared for disasters and given that most educators feel they will at some point be impacted by a disaster, the role of the school and its' staff needs to be defined and procedures developed to support coordinated responses to disasters.

After a severe tornado in Texas in 2019, the Walnut Hill Elementary School relocated and reopened two days post-event because the principal felt the best way to maintain continuity was to return students to a building and a routine (Potter et al., 2020). After experiencing a flood in 2021 in Leanne's community of Princeton, BC, two schools were closed due to continued flooding concerns, a lack of potable water, and other essential and emergency services. Students were relocated to a central school several days after the flood. However, attendance was poor, especially for older children. Understandably, those who attended were not necessarily ready for academic learning, but parents and students appreciated the sense of normalcy and connection to caring adults.

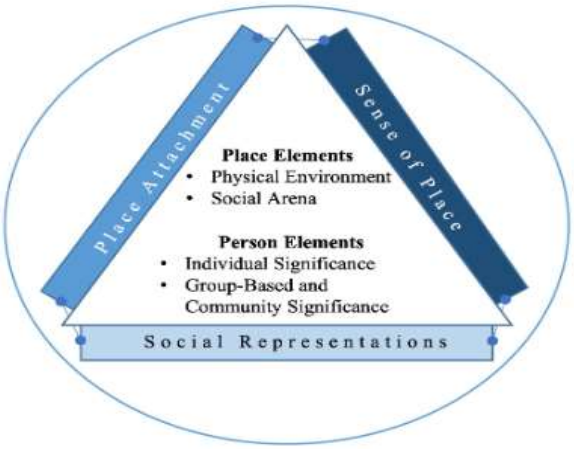
Reopening schools allows families to return to some form of routine, and working parents can feel confident that their children are in a caring environment, thus allowing them to return to work (Masten, 2020; Pacheco et al., 2022). Communities are very dependent on schools, and Masten (2020) strongly suggests that there are "profound and widespread effects" if schools shut down for prolonged periods (p. 5). The adverse effects are felt by individuals, families, communities, and even the economy (Masten, 2020). Due to the melting permafrost in the aforementioned northern communities, failed essential infrastructure can close schools, severely disrupting the continuity of daily life and eroding stability for community members (Sawyer et al., 2020). In addition, rebuilding in the remote North is very expensive, placing further financial strain on municipalities (Sawyer et al., 2020). Schools need to be prepared to respond to the "acceleration of the climate crisis globally and other emerging risks" stemming from disasters, as not only do the buildings offer a haven during a disaster, but the potential disruptions to the quality of life of children must also be addressed (GADRRRES, 2022, p.1).

Impact on Students

Elementary students may feel a sense of belonging or attachment to their school, referred to as 'place attachment'; it is their sense of community (Pacheco et al., 2022). Place attachment allows children to process disaster experiences better, move on to recovery, and eventually develop resilience (GADRRRES, 2022; Pacheco et al., 2022). Figure 1. emphasizes how schools can have person-place bonds in disaster contexts. Place attachment incorporates the external elements of a space and the memories and experiences the individual feels – a sense of place. These contribute to a school becoming a meaningful place, and when children feel a favorable attachment to their school, positive psychological impacts can be felt by the individual and the community (Pacheco et al., 2022).

Figure 1

Person Place Bond



Note: Pacheco et al., 2022 proposed this conceptual framework model to describe the functional resilience-building elements of schools. A unified framework (lens) exists between place attachment, sense of place, and social representations theories. From: "How schools can aid children's resilience in disaster settings: The contribution of place attachment, sense of place and social representations theories," by Pacheco, E.-M., Parrott, E., Oktari, R. S., & Joffe, H., (2022), *Frontiers in Psychology*, *13,* p. 4. Copyright 2022 by Creative Commons Attribution License.

When schools reopen post-disaster, young learners can resume attendance, possibly gaining a sense of regular life. When a disaster disrupts the academic year, students lose

instructional time and risk not being able to master fundamental academic concepts and skills, leading to future weaker academic achievement and even lowered life outcomes (Lai et al., 2016). The COVID-19 pandemic demonstrated that school closures lead to apparent academic delays and widened achievement gaps across all grades, further increasing student inequalities (University of Toronto, 2021). In addition, negative psychological impacts, such as a lack of motivation and engagement, may have been incurred, leading to increased high-school dropout rates (University of Toronto, 2021).

Impact on Communities

Schools also play an essential role in community disaster risk, response, and recovery (Masten, 2020; Mirzaei et al., 2021). Pacheco et al. (2022) suggest that schools play a significant role as "community hubs for local disaster risk management planning," and they are environments that are locally accessible (p. 7). If a school is not structurally damaged post-disaster, it may be utilized as a community multi-purpose resource center for evacuation sheltering, managing the emergency operations center, and coordinating disaster response activities (Danese et al., 2019; Edmeade & Buzinde, 2021; GADRRRES, 2022; Seyle et al., 2013).

From a disaster risk perspective, most school buildings have greater structural integrity than the average residential structure (Pacheco et al., 2022). In the aftermath of an earthquake that struck Christchurch, New Zealand, in 2011, many buildings, including schools, were damaged, and there were 185 fatalities, but none of them occurred in schools (O'Toole & Friesen, 2016). If a school building is not urgently needed as a community resource center, it can safeguard the well-being of children and youth, providing them with a secure place to go when disasters occur; these protective spaces are essential in supporting children's resilience (Pacheco et al., 2022).

Role of Educators in Disasters

When disasters occur during school hours, educators may need to be first responders with little to no training (Costa et al., 2015; Danese et al., 2019; GADRRRES, 2022; Masten, 2020). They might be first aid attendants, firefighters, comforters involved in triaging, a communication link between students and caregivers, and ultimately, multidisciplinary individuals called upon during a crisis (Masten, 2020). After a disaster, a school may be the only place to deal with students' emotional needs. The relationships that educators develop with their students may allow them to be the first to notice changes in student behavior (Costa & Cross, 2015). During crises, teachers may actively support their students' emotional well-being (Edmeade & Buzinde, 2021). Most educators will naturally go beyond their traditional roles to assist children in processing negative experiences such as disasters (Pacheco et al., 2022).

Disasters can disrupt regular routines, possibly resulting in missed school and delayed academic progress for young learners, hindering their development, health, and relationships (GADRRRES, 2022; Lai et al., 2016; Peek, 2008). Educators can assist students in recovering from disasters by returning to established routines. Additionally, encouraging play and positive social connections increase resilience (Lai et al., 2016; Masten, 2020; Sapienza & Masten, 2011). Some children may be able to replace their emotional crises with feelings of joy or connection at seeing and being in the presence of their classmates (Pacheco et al., 2022). Also, educators can naturally weave protective factors into their daily routines, such as the ones recorded in Table. 1.

Table 1

Building Student Resilience

Description	Examples of Techniques
Create a safe environment	Ensure the school environment is safe and inviting
Build relationships	Encourage positive peer relationships (attachments)
	Ensure that educators are approachable and show empathy
	Respect students
Affect regulation	Teach students how to describe their emotions
	Encourage students to take responsibility for their thoughts and behaviors
	Teach relaxation and mindfulness techniques
Perception of self	Help students develop a positive sense of self.
	Promote cultural education
	Help students understand their strengths and weaknesses
Personal qualities	Help students develop, understand, and exercise their values and beliefs in a respectful manner
Fortitude	Help students find a sense of purpose
Cognitive skills	Help students recognize how they learn best
Adaptive coping strategies	Teach coping strategies as a group and to individual students

Note: Educator tips. Adapted from "Fostering childhood resilience: A call to educators," by Ronald L. Gardner & Tammy L. Stephens-Pisecco, 2019, *Preventing School Failure: Alternative Education for Children and Youth, 63(*3), p. 197. Copyright 2019 by Taylor & Francis Group LLC.

In a broader societal context, the burden placed upon community mental health resources will be immense after a disaster (Danese et al., 2019; GADRRRES, 2022). Educators can be effective resources for assessing and supporting children's mental health following collective

traumas (Seyle et al., 2013). Children may experience many symptoms, including fear, jumpiness, irritability, anxiety, depression, headaches, and stomachaches (Danese et al.,2019; Lai et al., 2016). Unfortunately, little is known about how young children cope with disasters, particularly the long-term health impacts. Still, school personnel, such as educators, counselors, and social workers, are in a unique position as they may be able to provide formal and informal psychological assistance (Danese et al., 2019; Edmeade & Buzinde, 2021). If there is a significant loss, teachers, counselors, and peers may be able to ease some pain associated with grief (Seyle et al., 2013). Furthermore, organizing response activities is critical, and educators may be able to locate assessment and counseling services for affected students (Danese et al., 2019; GADRRRES, 2022).

Other Roles for Educators and Community Planners

One additional method of promoting resilience is for educators and community planners to allow children to play an integral role in suggesting creative restoration and rebuilding ideas for their school and community after a disaster (GADRRRES, 2022; Mirzaei et al., 2021). During each disaster phase, young people are recognized as having great potential as active agents (Peek, 2008). Children are surprisingly aware of their ability to contribute to restoration initiatives, being resourceful and more mindful than we often give them credit for (GADRRRES, 2022; Peek, 2008). Children were active in the recovery after a devastating earthquake in El Salvador in 2001; examples of their initiatives were "organizing clean-up campaigns, removing loose stones and walls, and helping to clean up refuse" (Peek, 2008, p.17). These actions can give children greater well-being and a positive attachment to the school building and community (Pacheco et al., 2022; Peek, 2008). In Ottawa-Gatineau, Ontario, high school and university-aged students were involved in a program promoting engagement and youth development in disaster risk reduction (Pickering et al., 2021). The program allowed students to disseminate disaster and

climate change information to schools and their communities. One of the key goals was to demonstrate that youth can contribute to disaster risk reduction by sharing knowledge about disasters (Pickering et al., 2021).

Implications

Natural hazards or unnatural disasters can occur at any time, and understanding the crucial role that schools and educators play in supporting children during and after these adverse events is vital. One implication of this research is to inform school policymakers, administrators, and educators of the value of implementing foundational skills training about local disaster risks, response, and recovery (Mirzaei et al., 2021). Educator disaster skills training should occur before adverse events to increase confidence, perhaps in teacher training or professional development (Edmeade & Buzinde, 2021; GADRRRES, 2022; Masten, 2020; Southwick et al., 2014). Future studies could also address how to effectively inform personnel regarding the preventative measures and training already being implemented or available to educators so that they can respond to clear early warnings to increase disaster risk reduction. Educators should be aware of the available disaster prevention literature. Each province and territory should have an emergency management plan for schools, and if not, school districts can refer to organizations such as the Global Alliance for Disaster Risk Reduction & Resilience in The Education Sector (GADRRRES) for additional strategies to better prepare for disasters. The Emergency Management Planning Guide from British Columbia is also a helpful resource to assist and support stakeholders in understanding their responsibilities in responding to and recovering from disasters (Ministry of Education and Child Care, 2023).

Children informed about their community's risks are less likely to sustain injuries or experience lasting negative emotions during an adverse event (GADRRES, 2022; Peek, 2008). One suggestion is that educators could weave education about the risks in their local areas into

daily routines or their curriculum, further reducing vulnerability and increasing resilience (Mirzaei et al., 2021; Peek, 2008). Additionally, it is crucial to provide strategic resilience training to educators and educational leaders to support children after disasters, particularly as they become more commonplace (Dyregrov et al., 2018; Masten, 2020; Mirzaei et al., 2021). Resilience training that includes strengths-based learning and resilience-building programs could also be introduced during teacher training (Gardner & Stephens-Pisseco, 2019).

In-depth research on the effect of disasters on communities, including rural communities and young children, specifically in Canada, needs to be prioritized. Further investigation is necessary as smaller communities require more resources, specialized disaster response systems, and personnel (Seyle et al., 2013). Therefore, educators in these geographic locations will likely play critical roles in recovery, and schools may be repurposed for disaster response activities (Seyle et al., 2013).

Conclusion

Dyregrov et al. (2018) suggest that approximately 175 million children will be negatively affected yearly due to climate change hazards, and educators believe that if their schools have not yet been impacted, they will soon. While there is much debate in the literature about child resilience, there is little question that when resilience is promoted early and holistically, children can better adapt positively to adversity, and unfortunately, disasters are becoming more commonplace (Cichetti, 2010; GADRRRES, 2022; Heubner et al., 2016; Masten, 2014). The World Meteorological Society reports that between the years 1971 and 2021, extreme weather and climate events have caused nearly 12 000 disasters globally, economic losses are close to US 4.3 trillion dollars, and the death toll during that time was approximately two million, most of which occurred in developing countries (World Meteorological Society, 2023). According to the Insurance Bureau of Canada, 2.4 billion dollars of insured damage due to climate-related events

was reached in 2020 (Insurance Bureau of Canada, 2021). That particular year is the fourth-highest insured loss in Canada since 1983 (Insurance Bureau of Canada, 2021).

Schools and educators play a fundamental role in responding to disasters and supporting resilience. The role of schools after a disaster will vary depending on many factors, such as whether the building is structurally sound, if there is enough staff to support attending students, and whether all the essential services, like electricity, potable water, and gas, are functioning correctly. Common possibilities for the role of schools are to be utilized as a community multi-purpose facility, educational environment, or a physical building to safeguard children and youth during a disaster event such as a tornado. Ultimately, communities depend on schools to support resilience in children (Mirzaei et al., 2021). Educators will act as first responders when disasters occur during the school day (Costa et al., 2015; Masten, 2020). However, due to the emergent and ongoing possibility of disasters, educator and school staff training is imperative as many still require more training to respond effectively to disasters during school hours.

The frequency and intensity of disasters are increasing worldwide, resulting in growing human suffering and damage to physical community structures. Developing and implementing community-specific educator disaster skills training and school policies to support children's resilience through an inclusive and intersectional lens is paramount to making their lives safer and communities more resilient to disasters (GADRRRES, 2022; Peek, 2008). Due to 'place attachments,' returning to regular routines at school can help normalize life for students and communities and promote resilience opportunities for play, social interactions, and traditional academics. Community mental health resources will be strained after disasters, and schools often have access to counselors or social workers needed to support young children. Schools and educators play a central role in communities after disasters; thus, they will play an equally

important role by assisting children in preparing for risks and supporting the development of resilience.

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