



Enhancing School Safety

Improved violence
management through
data-centred approaches

TD Research



Occupational violence in schools is a significant and growing challenge worldwide. UNESCO estimates that 246 million children experience violence in and around schools each year, highlighting the scale of the issue. The consequences affect not only students, but also educators, school leaders and their families, with many incidents remaining underreported. Although research is limited, evidence-based interventions have shown promise in reducing harm and improving outcomes across a range of educational contexts. However, there is still limited understanding of how data-driven approaches can strengthen violence prevention and management strategies, enabling schools to identify risks earlier and respond more effectively.

So, how can schools create environments that focus on prevention and community empowerment, fostering a culture of positive behaviour both in person and through other means, utilising the power of data to move from reactive responses to proactive prevention

Project Overview

This research investigates how data science and visualisation can improve the understanding, prevention and management of violence in school settings. By identifying patterns, risks and opportunities for intervention, the project explores how schools can move from reactive responses to proactive strategies that support safer, more resilient communities. Drawing on a range of analytical and research methods, the team conducted literature reviews, interviews, workshops, data cleansing, visualisation, hypothesis testing, statistical analysis and machine learning modelling. The research also explored policy prototyping and decision-support tools to help educators and school leaders make more informed decisions and strengthen violence prevention and response practices for the future.

Our Impact

This research has strengthened multi-agency partnerships and informed school safety policy through evidence-based recommendations. Working with educators, school leaders, students and community stakeholders, the team analysed and visualised complex data to identify patterns, risks and opportunities for intervention across the school ecosystem. Through a collaborative co-design process, the research developed strategies to support more effective and proactive approaches to managing Occupational Violence and Aggression in Schools (OVAS).

Key outcomes include:

- Improved data-informed practices for OVAS prevention and management.
- Enhanced understanding of the complex factors that influence school safety and wellbeing.
- Demonstrated the practical application of data science and visualisation for decision support.
- Accelerated the deployment of support services and wellbeing monitoring.
- Supported a shift from reactive responses to proactive intervention strategies.
- Developed a proof of concept for data visualisation and operational implementation.
- Increased stakeholder participation in school safety planning and policymaking.

The team continues to advance research into the prevention and management of school violence, contributing to safer, more connected and thriving school communities

Work with us

We deliver a wide range of research projects for public and private sector partners seeking research expertise and support in overcoming their complex challenges using our unique transdisciplinary (TD) methodology. To find out how TD Research can help you and your organisation, please email - TDResearch@uts.edu.au

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