

Artificial Intelligence and Data-Driven Approaches for Early Safeguarding: A UK-Focused Scoping Review of School and Social Care Records

Dr. Nazanin Khasteganan

University of Wolverhampton, United Kingdom

Dariush Fallahkohan

Aston University, United Kingdom

Abstract:

Background: Early identification of children who are experiencing or are at risk of family-based abuse has been a long-standing challenge for healthcare, education and social care providers. Schools and children's social care services across the UK have maintained detailed administrative records over decades, including datasets on attendance, behavioural notes and safeguarding case histories which may hold clues to early risk. The application of artificial intelligence (AI) and data-driven methods to administrative data has grown in popularity for early warning and decision-support tools but previous research has been siloed by discipline, variably-named and often published outside academic literature.

Aim: This scoping review sought to identify and critically appraise evidence from the UK related to artificial intelligence and data-driven approaches applied to school and social care records which aimed to support early identification of safeguarding concerns related to family-based abuse.

Methods: A scoping review was undertaken according to PRISMA-ScR guidelines. Peer-reviewed research, alongside high-quality UK grey literature sources, were included to best represent applied policy- and pilot-informed research. Sources reporting on machine learning/predictive modelling algorithms, risk-modelling tools or natural language processing applied to school administrative data, children's social care datasets, or linked administrative datasets were eligible for inclusion. Data charting focused on study characteristics (including methods and ethical considerations), type of data sources used, safeguarding outcomes assessed, and findings.

Results: Evidence demonstrated that AI-enabled safeguarding research conducted in the UK was currently in early stages and methodologically diverse. The majority of reviewed sources were retrospective and/or exploratory studies, often with clear ties to local authority or government commissioning. Data indicated an underrepresentation of studies using school-recorded administrative data relative to social care datasets, and limited transparency/bias testing or model explainability was reported across studies.

Conclusion: This scoping review offers the first UK-focused review of AI and data-driven approaches applied to school and social care datasets to support safeguarding outcomes. Findings helped contextualise and define current areas of evidence, identify key gaps in data standardisation/

electronic integration and ethical reporting and posed considerations for how health- and wellbeing-focused AI could support (rather than replace) critical professional decision-making in child safeguarding.

Keywords:

Artificial intelligence, child safeguarding, scoping review, predictive analytics, social care data, education data, ethical ai, health and wellbeing.