

DEVELOPING AND OPERATIONALISING NATURAL
LANGUAGE PROCESSING SOLUTIONS FOR CHILD
SAFEGUARDING: A CRITICAL REVIEW OF
TECHNICAL POSSIBILITIES AND
ORGANISATIONAL REALITIES IN UK POLICING –
TITLE TO BE CONFIRMED!!!

**Theoretical Perspectives of
Advanced Professional Practice -
MOD006047**

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Abstract

Purpose: Lorem ipsum...

Method: Lorem ipsum...

Findings: Lorem ipsum...

Conclusion: Lorem ipsum...

Contents

1	Introduction	5
1.1	Purpose and scope of the paper	5
1.2	Research context	5
2	Literature Search Strategy and Methodology	7
2.1	Review Methodology and Rationale	7
2.2	Search approach and databases	7
2.3	Keywords and search terms	7
2.4	Inclusion and exclusion criteria	7
2.5	Results and filtering process	7
3	The Landscape of Child Sexual Exploitation and Policing’s Response	8
3.1	Scale and trajectory of CSA	8
3.2	The grooming to contact offending pathway	8
3.3	Policing’s reactive posture	8
3.4	The case for technological intervention	8
4	NLP and AI in Safeguarding and Criminal Justice Contexts	9
4.1	NLP applications in public services	9
4.2	Computational approaches to grooming language detection	9
4.3	The data provenance problem	9
4.4	What the technical literature leaves unanswered	9
5	Technology Adoption and Organisational Change in Policing	10
5.1	Policing as a technology consumer	10
5.2	Tacit versus explicit knowledge cultures	10
5.3	Theoretical frameworks for technology adoption	10
5.4	Structural fragmentation as an implementation barrier	10
6	Synthesis: Where Technical Possibility Meets Organisational Reality	11
6.1	The convergence problem	11
6.2	Inductive and deductive reasoning across the two tracks	11
6.3	Towards a theoretical position	11
7	Conceptual Framework and Research Questions	12
7.1	Presenting the conceptual framework	12
7.2	How the literature has shaped the framework	12
7.3	Refined research aim and sub-questions	12

8	Conclusions	13
8.1	Summary of the argument	13
8.2	Implications for professional practice	13
8.3	Next steps	13
A	Patch One - Upload and Feedback	15
B	Patch Two - Upload and Feedback	16

Acronyms

CSA Child Sexual Abuse. 4, 5

NLP Natural Language Processing. 4, 5

List of Figures

Chapter 1

Introduction

1.1 Purpose and scope of the paper

This paper defines the research context before selecting the most appropriate methodology and strategy for the literature review which follows.

The research area is inherently interdisciplinary, positioned at the intersection of technical and organisational domains. Accordingly, the literature review is structured into three parallel tracks:

1. The first track explores the landscape of Child Sexual Abuse (CSA) and the challenges it poses for policing.
2. The second track reviews the technical literature on Natural Language Processing (NLP) applications in safeguarding and criminal justice contexts, focusing on grooming language detection.
3. The third track examines the organisational dynamics of technology adoption in policing, drawing on change management theories and empirical observations.

Each track is explored in depth, and their insights are then synthesised to identify where technical possibilities meet organisational realities. This structure enables a comprehensive understanding of both the capabilities and constraints shaping both the research problem and the practice improvement opportunity.

1.2 Research context

Empirical observations, supported by academic and grey literature, (Finkelhor et al., 2024; National Police Chiefs' Council, 2025) identify that reported instances of CSA are increasing, with resultant demand on policing outstripping proactive preventative capabilities.

The gap between demand and capability in both CSA and other operational areas of policing is acknowledged across the sector, generating political and organisational appetite for technological solutions, (National Police Chiefs' Council, 2026). Despite this appetite, empirical evidence suggests that policing is structurally complex and requires reform to better adopt technology, (Cooper, 2024), with cultural barriers further diminishing the

successful use of technological solutions, (Thompson and Manning, 2021; Kassem and Erken, 2025).

These challenges are significant, yet they do not negate the potential of emerging technologies to address the identified capability gap. Advances in NLP technologies present an opportunity to deliver preventative safeguarding in the CSA context, acknowledging that the gap between technical possibility and operational deployment is not primarily technical but organisational.

This paper explores how to bridge this gap, drawing on the three literature tracks outlined in section 1.1 in order to answer the posed research question: *How can natural language processing methods be developed and operationalised to identify precursors of contact sex offending against children, to enhance proactive safeguarding opportunities within the existing operational constraints of policing?*

This question is supported by four sub-questions:

1. What linguistic precursors of contact sex offending exist in offender-victim conversations?
2. Which NLP methods can be most effectively realised within policing infrastructure?
3. What implementation barriers exist within policing that may hinder NLP adoption?
4. What strategies can be developed to overcome those barriers?

Chapter 2

Literature Search Strategy and Methodology

2.1 Review Methodology and Rationale

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2.2 Search approach and databases

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2.3 Keywords and search terms

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2.4 Inclusion and exclusion criteria

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2.5 Results and filtering process

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Chapter 3

The Landscape of Child Sexual Exploitation and Policing's Response

3.1 Scale and trajectory of CSA

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3.2 The grooming to contact offending pathway

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3.3 Policing's reactive posture

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3.4 The case for technological intervention

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Chapter 4

NLP and AI in Safeguarding and Criminal Justice Contexts

4.1 NLP applications in public services

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4.2 Computational approaches to grooming language detection

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4.3 The data provenance problem

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4.4 What the technical literature leaves unanswered

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Chapter 5

Technology Adoption and Organisational Change in Policing

5.1 Policing as a technology consumer

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5.2 Tacit versus explicit knowledge cultures

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5.3 Theoretical frameworks for technology adoption

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5.4 Structural fragmentation as an implementation barrier

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Chapter 6

Synthesis: Where Technical Possibility Meets Organisational Reality

6.1 The convergence problem

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6.2 Inductive and deductive reasoning across the two tracks

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6.3 Towards a theoretical position

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Chapter 7

Conceptual Framework and Research Questions

7.1 Presenting the conceptual framework

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7.2 How the literature has shaped the framework

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7.3 Refined research aim and sub-questions

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Chapter 8

Conclusions

8.1 Summary of the argument

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8.2 Implications for professional practice

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8.3 Next steps

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Appendix A

Patch One - Upload and Feedback

Appendix B

Patch Two - Upload and Feedback

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