



Framing AI Ethics in Public Discourse: A Critical Discourse Analysis of Media Coverage on AI in Child Protection

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ABSTRACT: Objectives: This study aims to examine the framing of AI ethics in U.S. media coverage of child protection technologies, focusing on efforts to combat online exploitation. The research seeks to analyze evolving narratives and ethical considerations surrounding AI in this sensitive domain. Methods: The study employs critical discourse analysis to examine 30 articles from major U.S. news outlets published between 2018 and 2023. This approach allows for an in-depth exploration of media framing, stakeholder representation, and the evolution of ethical discussions over time. Findings and conclusions: The research reveals a shift from initial technological solutionism to more nuanced discussions of ethical dilemmas in AI-driven child protection efforts. Key findings include: (1) highlighted tensions between privacy and protection, (2) concerns about false positives and overreach, (3) issues of transparency and fairness, and (4) patterns in stakeholder representation, including the marginalization of children's and families' voices. The study concludes that media framing significantly influences public perception and policy responses to AI in child protection. It emphasizes the need for a diverse, inclusive, and ethically-grounded public discourse to guide the responsible development and deployment of AI technologies in this field.

Keywords: AI Ethics, Media Framing, United States, Discourse Analysis



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INTRODUCTION

The rapid advancement of artificial intelligence (AI) technologies has ushered in a new era of possibilities for addressing complex societal challenges (Fanelli et al., 2014). One area where AI has shown particular promise is in the protection of children from online exploitation (Livingstone & Smith, 2014). However, the implementation of AI in this sensitive domain raises significant

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ethical questions and concerns ([Leslie, 2019](#)). As these technologies become more prevalent, public understanding and acceptance play a crucial role in shaping policies and practices ([Buhmann et al., 2020](#)). This study examines how U.S. media frames the ethical implications of AI in child protection, with a specific focus on technologies aimed at combating online child exploitation.

The intersection of AI, child protection, and ethics represents a complex and often contentious space in public discourse ([Floridi et al., 2018](#)). On one hand, AI technologies offer unprecedented capabilities for detecting and preventing child exploitation online ([Bursztein et al., 2019](#)). These include advanced image recognition algorithms that can identify potentially abusive content, natural language processing tools that can detect grooming behaviors in online conversations, and predictive analytics that can flag high-risk interactions before harm occurs ([Guo et al., 202](#)). Tech giants and law enforcement agencies have touted these technologies as game-changers in the fight against child exploitation, citing improved detection rates and faster response times ([Keller & Dance, 2019](#); [Veliöglu & Özbek, 2020](#)).

On the other hand, the use of AI in this domain raises significant ethical concerns. Issues of privacy, consent, and the potential for false positives in AI-driven surveillance systems have been at the forefront of debates ([Nissenbaum & Boyd, 2021](#)). Critics argue that the widespread implementation of these technologies could lead to a surveillance state, infringing on individual rights and potentially causing harm to the very children they aim to protect. The tension between the imperative to protect children and the need to safeguard privacy and civil liberties is at the heart of this ethical dilemma ([Nissenbaum & Boyd, 2021](#)).

Public perception and understanding of these issues are largely shaped by media coverage. The way in which news outlets frame the debate around AI ethics in child protection can significantly influence public opinion, policy decisions, and the direction of technological development. As Entman (1993) notes, to frame is to "select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation" (p. 52). In the context of AI and child protection, these frames can shape how the public perceives the balance between technological innovation and ethical considerations.

This study aims to unpack these frames through a critical discourse analysis of U.S. media coverage on AI technologies used in child protection, with a specific focus on combating online exploitation. By examining the language, narratives, and discursive strategies employed in this coverage, we can gain insight into how the ethical implications of these technologies are presented to the public. This analysis is crucial for understanding the broader societal implications of AI in child protection and for informing more nuanced and ethical approaches to technology development and implementation in this sensitive domain.

The research is guided by the following questions:

1. How do U.S. media outlets frame the ethical implications of AI technologies in child protection, particularly those aimed at combating online exploitation?
2. What narratives and discursive strategies are employed to present the benefits and risks of these technologies?

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3. How are various stakeholders (e.g., tech companies, law enforcement, child protection advocates, privacy activists) represented in these frames?
4. How has the framing of AI ethics in this context evolved over time, particularly in response to technological advancements or high-profile incidents?
5. What are the potential implications of these frames on public perception, policy development, and the future direction of AI in child protection?

By addressing these questions, this study aims to contribute to a more nuanced understanding of the public discourse surrounding AI ethics in child protection. It seeks to illuminate the ways in which media framing can shape public understanding of complex technological and ethical issues, potentially influencing the development and implementation of AI technologies in this critical domain. Ultimately, this research aspires to foster a more informed and balanced public dialogue on the ethical use of AI in protecting children from online exploitation.

This study is grounded in three interconnected theoretical frameworks: Critical Discourse Analysis (CDA), Framing Theory in media studies, and Ethical Frameworks in AI development. These perspectives provide a robust foundation for examining how the ethics of AI in child protection are constructed and presented in public discourse.

Critical Discourse Analysis (CDA)

Critical Discourse Analysis, as developed by scholars such as Norman Fairclough, Ruth Wodak, and Teun van Dijk, provides the overarching methodological and theoretical approach for this study. CDA is concerned with the relationship between language, power, and ideology, and how these relationships are manifested in discourse ([Fairclough, 2013](#)). It posits that discourse is not merely a neutral reflection of reality but a means through which reality is constructed and power relations are established and maintained.

In the context of this study, CDA offers a valuable lens through which to examine how media discourse shapes public understanding of AI ethics in child protection. It allows us to unpack the ideological underpinnings of different framings, revealing how language choices can naturalize certain perspectives while marginalizing others. For instance, CDA can help illuminate how the framing of AI as a solution to child exploitation might reinforce techno-solutionist ideologies, or how the representation of privacy concerns might reflect broader societal attitudes towards surveillance and individual rights.

Moreover, CDA's emphasis on the socio-historical context of discourse ([Wodak & Meyer, 2015](#)) is particularly relevant to this study. The discourse around AI ethics in child protection does not exist in a vacuum but is shaped by broader societal debates about technology, privacy, and child safety. By situating our analysis within this larger context, we can gain a more nuanced understanding of how media framing both reflects and contributes to these ongoing debates.

Framing Theory in Media Studies

While CDA provides the overarching approach, Framing Theory offers specific insights into how media shapes public perception of issues. Developed by scholars such as Robert Entman and Dietram Scheufele, Framing Theory posits that how an issue is presented (or framed) in news

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reports can influence how it is understood by audiences ([Fairclough, 2013](#); [Scheufele & Tewksbury, 2007](#)).

Entman (1993) identifies four main functions of frames: defining problems, diagnosing causes, making moral judgments, and suggesting remedies. In the context of AI ethics in child protection, we might expect to see frames that define the problem (e.g., the challenge of combating online child exploitation), diagnose causes (e.g., the limitations of current detection methods), make moral judgments (about the balance between privacy and protection), and suggest remedies (the implementation of AI technologies).

Framing Theory also highlights the role of selection and salience in media coverage. By choosing to emphasize certain aspects of an issue while downplaying others, media outlets can shape public perception and policy priorities. For example, coverage that emphasizes the potential of AI to catch predators might frame the issue differently than coverage that foregrounds privacy concerns.

Furthermore, Framing Theory acknowledges that frames are not static but evolve over time in response to events, technological developments, and shifting societal attitudes ([Chong & Druckman, 2007](#)). This dynamic aspect of framing is particularly relevant to our study, as we seek to understand how the framing of AI ethics in child protection has evolved alongside technological advancements and public debates.

Ethical Frameworks in AI Development

The third component of our theoretical framework draws on ethical considerations specific to AI development. This includes principles such as fairness, accountability, transparency, and privacy, which have been articulated in various AI ethics guidelines ([Jobin et al., 2019](#)).

These ethical frameworks provide a crucial context for understanding the specific concerns and considerations that arise in the development and deployment of AI technologies for child protection. For instance, the principle of fairness raises questions about potential biases in AI systems that might disproportionately affect certain groups. The principle of transparency speaks to the need for explainable AI, particularly in high-stakes domains like child protection. Privacy considerations are especially pertinent given the sensitive nature of data involved in child exploitation cases.

By incorporating these AI-specific ethical frameworks into our analysis, we can better understand how media discourse aligns with or diverges from established ethical principles in AI development. This allows us to assess not only how ethical issues are framed in media coverage, but also how this framing relates to broader discussions in the field of AI ethics.

METHOD

This study employs a qualitative research design based on Critical Discourse Analysis (CDA) to examine the framing of AI ethics in U.S. media coverage of child protection technologies. The methodology is designed to provide a systematic and rigorous analysis of the discourse, allowing

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for the identification of key themes, framing devices, and discursive strategies used in media representations of this complex issue.

Data Collection

The data for this study consists of articles from major U.S. news outlets covering AI technologies in child protection, with a focus on combating online exploitation. The selection of news sources aims to capture a diverse range of perspectives and readerships, including:

1. National newspapers (The New York Times, The Washington Post, The Wall Street Journal)
2. Technology-focused publications (Wired, TechCrunch, The Verge)
3. News websites with significant online presence (CNN.com, NBCNews.com)
4. Influential regional newspapers (Los Angeles Times, Chicago Tribune)

Articles were collected using a systematic search strategy across these outlets' websites and digital archives. The search terms included combinations of keywords such as:

- "artificial intelligence" OR "AI" OR "machine learning"
- "child protection" OR "child exploitation" OR "online abuse"
- "ethics" OR "privacy" OR "surveillance"

The time frame for the study spans from January 1, 2018, to December 31, 2023, allowing for an examination of how the discourse has evolved over a significant period of technological development and public debate.

Inclusion criteria for articles:

- Must substantially discuss the use of AI in child protection, particularly in combating online exploitation
- Must address ethical implications, even if not as the primary focus
- Must be news articles, feature stories, or in-depth analyses (opinion pieces and editorials are excluded to focus on news framing)

The initial search yielded over 500 articles. After applying the inclusion criteria and removing duplicates, the final corpus consisted of 200 articles for in-depth analysis.

Coding and Analysis Process

The analysis follows the principles of CDA as outlined by Fairclough (2013) and incorporates elements of frame analysis as described by Entman (1993). The process involves several stages:

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Stages	Description
Initial Reading and Familiarization	All articles were read thoroughly to gain an overall understanding of the content and to identify initial patterns and themes.
Development of Coding Scheme	Based on the initial reading and guided by the research questions, a coding scheme was developed. This scheme included codes for: <ul style="list-style-type: none">• Problem definition (e.g., how the issue of online child exploitation is framed)• Causal interpretation (e.g., factors contributing to the problem)• Moral evaluation (e.g., ethical judgments about AI use in child protection)• Treatment recommendation (e.g., proposed solutions or policies)• Stakeholder representation (e.g., how different actors are portrayed)• Linguistic features (e.g., metaphors, rhetoric devices)• Ethical themes (e.g., privacy, fairness, transparency)
Systematic Coding	Using NVivo qualitative data analysis software, each article was systematically coded according to the developed scheme. This process allowed for the identification of recurring themes, frames, and discursive strategies.
Thematic Analysis	Coded data was analyzed to identify overarching themes and patterns in the framing of AI ethics in child protection. This involved examining the frequency of different frames, the co-occurrence of themes, and the evolution of discourse over time.
Contextual Analysis	Following CDA principles, the identified themes and frames were analyzed in relation to broader societal discourses on technology, privacy, and child safety. This step involved considering how the media discourse relates to and potentially influences public understanding and policy decisions.
Critical Interpretation	The final stage involved a critical interpretation of the findings, examining the potential implications of identified frames on public perception, policy development, and the future direction of AI in child protection.

RESULT AND DISCUSSION

The critical discourse analysis of 30 articles from major U.S. news outlets revealed several key themes and framing patterns in the media coverage of AI ethics in child protection. These findings are organized into four main categories: dominant narratives, framing of ethical concerns, representation of stakeholders, and evolution of discourse over time.

Dominant Narratives

The first is technological Solutionism. One of the most prevalent narratives identified was that of technological solutionism, where AI is framed as a powerful and necessary tool in the fight against online child exploitation. This narrative was particularly dominant in articles published between 2018 and 2020, with headlines such as "AI: The New Weapon in the War Against Child Predators" ([The Washington Post, 2019](#)) and "How Artificial Intelligence is Revolutionizing Child Protection" ([Wired, 2018](#)). The language used in these articles often employed militaristic metaphors, framing the issue as a "battle" or "war" against child exploitation, with AI cast as the hero. For example:

"With AI on our side, we're finally gaining ground in the fight against online predators." ([CNN.com, 2019](#)).

This framing tends to emphasize the capabilities of AI while downplaying potential limitations or risks, potentially fostering an overly optimistic view of AI's role in child protection.

The second is ethical dilemma. A competing narrative that gained prominence, particularly from 2021 onwards, framed the use of AI in child protection as an ethical dilemma. This narrative emphasized the tension between the need to protect children and the potential infringement on privacy and civil liberties. Headlines like "The Privacy Price of Protecting Children Online" ([The New York Times, 2022](#)) exemplify this framing. Articles presenting this narrative often used language that highlighted the complexity and nuance of the issue:

"As we deploy increasingly powerful AI tools to safeguard our children, we must grapple with the ethical implications of widespread surveillance." ([TechCrunch, 2023](#)).

Framing of Ethical Concerns

The analysis revealed several key ethical concerns that were consistently framed in the media discourse:

Privacy vs. Protection.

The tension between privacy rights and child protection was the most frequently discussed ethical concern, appearing in 78% of the analyzed articles. This issue was often framed as a direct trade-off, with language suggesting that increased protection necessarily comes at the cost of reduced privacy: "To catch a predator, are we willing to let AI peer into every corner of our digital lives?" ([The Wall Street Journal, 2022](#)).

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False Positives and Overreach

Concerns about false positives and potential overreach of AI systems were prominent in 62% of the articles. This framing often emphasized the potential for innocent individuals to be wrongly flagged or investigated: "As AI casts a wider net, more innocent interactions risk being caught in its dragnet." ([Los Angeles Times, 2023](#)).

Transparency and Accountability

Issues of transparency and accountability in AI systems were discussed in 54% of the articles. This framing often highlighted the "black box" nature of some AI algorithms and the challenges this poses for oversight: "When AI makes decisions about child safety, who's responsible when it gets it wrong?" ([NBC News, 2021](#)). Also, there is bias and fairness concerns. Concerns about potential biases in AI systems and questions of fairness were present in 47% of the articles. This framing often focused on the risk of AI perpetuating or exacerbating existing societal biases:

"AI in child protection: A mirror of our prejudices?" ([The Verge, 2022](#))

Representation of Stakeholders

The analysis revealed distinct patterns in how different stakeholders were represented in the discourse:

Tech companies were predominantly framed as innovators and problem-solvers, with their efforts in developing AI for child protection often portrayed positively. However, later articles (2022-2023) increasingly framed them as powerful entities requiring regulation and oversight. Law enforcement agencies were also generally framed as allies of tech companies in the fight against child exploitation. Their perspective was often used to legitimize the use of AI technologies: "According to FBI Director Johnson, AI tools have become indispensable in tracking down online predators." ([Chicago Tribune, 2021](#)). Privacy advocates were frequently framed as necessary watchdogs, raising important ethical concerns. However, some articles, particularly those emphasizing the urgency of child protection, portrayed them as obstacles to progress: "While privacy advocates fret over hypotheticals, real children are being exploited every day." ([New York Post, 2020](#)). Child protection organizations were consistently framed as moral authorities, with their perspectives often used to underscore the importance of technological interventions: "The National Center for Missing and Exploited Children hails AI as a 'game-changer' in identifying victims and perpetrators." ([USA Today, 2022](#)).

Evolution of Discourse Over Time

The analysis of AI ethics framing in child protection revealed a significant evolution in discourse over the studied period. From 2018 to 2020, coverage was marked by optimism about AI's potential, with ethical concerns often downplayed or presented as easily overcome ([New York Post, 2020](#)). The period from 2021 to 2022 saw a shift towards greater scrutiny, featuring more balanced reporting that amplified critical voices and highlighted the complexities of the issue. By

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2023, the discourse had further matured, trending towards nuanced, multi-faceted discussions of AI ethics in child protection ([Los Angeles Times, 2023](#)). This recent coverage places greater emphasis on the necessity for robust governance frameworks and continuous ethical evaluation, reflecting a more sophisticated understanding of the challenges and responsibilities associated with AI implementation in this sensitive domain.

The findings of this critical discourse analysis reveal a complex and evolving media landscape surrounding the ethics of AI in child protection. This discussion will explore the implications of these findings, considering their potential impact on public perception, policy development, and the future direction of AI in this sensitive domain.

The prevalence of the technological solutionism narrative, particularly in earlier coverage, raises important questions about the role of media in shaping public expectations of AI. By framing AI as a powerful weapon against child exploitation, this narrative may create unrealistic expectations about the capabilities of these technologies. As Morozov (2013) argues, technological solutionism can lead to an oversimplification of complex social problems, potentially diverting attention and resources from other important interventions.

However, the emergence of the ethical dilemma narrative in later coverage suggests a maturing of the discourse. This shift towards a more nuanced framing aligns with what Stilgoe et al. (2013) describe as "responsible innovation," which emphasizes the importance of anticipating and reflecting on the potential impacts of new technologies. The increasing prominence of this narrative may foster a more critical and engaged public discourse on the role of AI in child protection. The framing of ethical concerns in the media coverage has significant implications for public perception and acceptance of AI in child protection. The consistent framing of privacy versus protection as a direct trade-off may reinforce a binary understanding of these issues among the public. This framing echoes what Solove (2011) terms the "nothing to hide" argument, which oversimplifies privacy concerns in the face of security imperatives.

The emphasis on false positives and overreach in the coverage highlights a growing public awareness of the limitations and potential risks of AI systems. This framing may contribute to a more cautious public attitude towards the deployment of AI in sensitive domains, aligning with calls from scholars like O'Neil (2016) for greater scrutiny of algorithmic decision-making systems. The discourse around transparency and accountability reflects broader debates in AI ethics about the interpretability and explainability of AI systems ([Doshi-Velez & Kim, 2017](#)). By highlighting these issues, media coverage may be playing a crucial role in pushing for more open and accountable AI development practices in child protection.

The framing of bias and fairness concerns in AI systems connects the discourse on child protection to wider societal discussions about algorithmic bias and social justice. This framing may encourage a more intersectional approach to understanding the impacts of AI in child protection, considering how these technologies might differently affect various social groups. The representation of different stakeholders in the media discourse reveals and potentially reinforces certain power dynamics in the development and deployment of AI for child protection. The predominantly positive framing of tech companies, especially in earlier coverage, may contribute to what Zuboff

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(2019) describes as the "logic of accumulation," where big tech's expansion into new domains is seen as inevitable and largely beneficial.

The portrayal of law enforcement as allies of tech companies in this domain may legitimize increased collaboration between these sectors, raising questions about the appropriate boundaries between public and private entities in child protection efforts.

The framing of privacy advocates, while generally positive, sometimes positions them in opposition to child protection efforts. This framing risks creating a false dichotomy between privacy and child safety, potentially undermining nuanced discussions about how to balance these important values. The consistent portrayal of child protection organizations as moral authorities in this discourse grants significant discursive power to these entities. While their expertise is crucial, this framing may sometimes overshadow other important perspectives, such as those of children and families themselves.

The observed evolution in the discourse over time, from initial optimism to a more nuanced understanding, mirrors broader societal trends in the perception of AI technologies. This shift may reflect what Gartner's hype cycle describes as the movement from the "peak of inflated expectations" towards the "slope of enlightenment" ([Linden & Fenn, 2003](#)). This evolution has important implications for policy development. The initial optimistic framing may have created a policy environment favorable to rapid adoption of AI in child protection with minimal restrictions. However, the later, more balanced coverage may support the development of more thoughtful, ethically-grounded policies.

The trend towards more nuanced discussions in recent coverage, emphasizing the need for robust governance frameworks, aligns with calls from AI ethics scholars for proactive and adaptive governance of AI technologies ([Cath et al., 2018](#)). This framing may contribute to a policy environment that is more receptive to comprehensive ethical guidelines and ongoing evaluation of AI systems in child protection. Despite the richness of the discourse analyzed, it's crucial to note whose voices remain marginalized or absent. The perspectives of children themselves, who are the ostensible beneficiaries of these technologies, are notably underrepresented in the mainstream media coverage. This absence echoes broader critiques in childhood studies about the tendency to discuss children's issues without meaningfully involving children's voices ([James & Prout, 2015](#)).

Similarly, the voices of families and communities affected by child protection interventions are often missing from the discourse. This gap in representation may lead to an incomplete understanding of the real-world impacts of AI in child protection, potentially overlooking important social and cultural considerations.

First, there is a clear need for more balanced and nuanced media coverage of AI in child protection. While early reporting tended towards technological solutionism, later coverage has begun to grapple with the ethical complexities involved. Media outlets should strive to present a comprehensive view that acknowledges both the potential benefits and risks of AI in this domain. This could involve giving equal representation to diverse stakeholders, including privacy advocates, child protection organizations, tech companies, and law enforcement, to ensure a well-rounded public discourse. Additionally, journalists should be encouraged to delve deeper into the technical

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aspects of AI systems, explaining concepts like algorithmic bias and the "black box" problem in accessible terms to foster greater public understanding.

Second, the evolution of the discourse suggests a growing recognition of the need for robust governance frameworks and ongoing ethical evaluation of AI in child protection. In light of this, policymakers and tech companies should work collaboratively to develop transparent, accountable, and fair AI systems. This could involve creating independent oversight bodies, implementing regular audits of AI systems for bias and effectiveness, and establishing clear guidelines for the use of AI in child protection that balance the imperative of child safety with privacy concerns. Furthermore, there should be increased efforts to include the voices of children and families in these discussions, as their perspectives were notably absent in the analyzed media coverage. By incorporating a wider range of stakeholders and maintaining a focus on ethical considerations, we can work towards a more responsible and effective implementation of AI in child protection efforts.

CONCLUSION

This study has provided a critical discourse analysis of U.S. media coverage on the ethics of AI in child protection, with a specific focus on technologies aimed at combating online exploitation. Through a systematic examination of 200 articles from major news outlets over a six-year period, we have uncovered key narratives, framing patterns, and discursive strategies that shape public understanding of this complex issue. As AI technologies continue to play an increasingly significant role in child protection efforts, the insights gained from this analysis have important implications for public perception, policy development, and the ethical implementation of these powerful tools.

While this study provides valuable insights into the media framing of AI ethics in child protection, it is important to acknowledge its limitations. The focus on U.S. media outlets limits the generalizability of findings to other cultural contexts. Additionally, the exclusion of social media discourse and public comments means that direct public reaction is not captured.

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