Media Portrayal of Teenagers and AI: A Quantitative Study on News Framing

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Abstract

The use of *Artificial Intelligence* (AI) among teenagers is increasing, significantly influencing their mindset and behavior. This study aims to analyze the representation of the relationship between AI and teenagers in media coverage through content analysis. Data was collected from 60 news articles obtained using the keywords "teenagers" and "AI" on Google News, focusing on narratives related to the impact of AI on teenagers. Four main categories were analyzed: AI as a threat to teenagers, AI exacerbating teenage behavior, the secretive use of AI by teenagers, and AI as a tool supporting positive spaces. This study contributes to understanding how media represents AI in the context of teenagers and provides new insights by highlighting the imbalance in media coverage, which tends to emphasize the risks of AI rather than its positive impacts. The findings reveal that most coverage emphasizes the negative impacts of AI on teenagers, such as addiction risks and behavioral changes that may lead to self-harm, compared to the less discussed positive aspects, such as educational benefits. The implications of these findings suggest the need for a more balanced and prudent approach in media coverage, allowing AI to be explored further as a beneficial tool for teenagers, while reducing the focus on threats and risks alone. This study also opens up opportunities for further research on how the media shapes public perception of modern technologies among the younger generation.

Keywords: *News; Artificial Intelligence; Teenagers; Technology; Media*

1. Introduction

Technology has become the backbone in the modern era through various aspects of life, ranging from communication, education, to natural resource management. With the advancement of technology, various human activities can be carried out more easily and practically, reducing effort and increasing efficiency. Artificial intelligence (AI) represents a technological advancement significant enough to transform the way individuals interact with the world around them. AI technology encompasses capabilities such as learning, reasoning, problem-solving, and decision-making, which typically require human intelligence. By relying on big data and algorithms, AI plays a significant role in the technological revolution and drives innovation toward a more sustainable world.

In recent years, AI has become one of the most discussed topics in the media, particularly in the field of technology (Kharis et al., 2023). The media often highlights the impact of AI on various aspects of life, both positive and negative. Increasingly sophisticated Deepfake technology, for example, challenges individuals' ability to distinguish between authentic content and digital manipulation. A study taught students to recognize Deepfake content through video-based learning, using pre-test and post-test results as indicators of learning effectiveness (Ali et al., 2021). In the field of health, AI shows great potential as an effective solution to support mental health efforts, serving as a tool to provide various information related to treatment. However, the development of this technology did not happen instantly. In its early days, AI was used as a tool for news writing where journalists wrote and inserted tags in phrases, headlines, or bullet points (Putranto and Utoyo, 2022). This transformation of AI's role highlights its versatility across various sectors, standing as a testament to technological progress.

The presence of AI significantly contributes to understanding media communication, particularly in the context of teenagers aged 10-20, who are in a questioning phase. Teenagers are among the most exposed groups to AI-based technologies, such as social media, games, and digital learning tools (Muarifin, 2023). With increased access to technology, AI not only simplifies activities but also influences how teenagers communicate, learn, and socialize. Media portrayals of AI have a significant impact on how teenagers perceive and use technology. The media tends to paint a polarized picture, presenting AI as a revolutionary technology or as a threat to privacy and employment. These narratives are crucial as they shape how individuals understand and accept AI in their daily lives, ultimately influencing their mindset. News often portrays AI as a technology that helps teenagers in their activities. Various dynamic patterns of AI representation in news related to teenagers, portray AI as a tool full of potential as well as challenges. The media provides a complex narrative, combining optimistic and critical viewpoints to reflect the multifaceted impact of AI on the younger generation.

Despite the benefits, AI technology presents some serious risks if misused. In positive reporting, AI is seen as an empowering tool but negative reporting often highlights the risks of addiction and the impact of the technology. The media uses various tones, framing, and narratives to discuss AI in various contexts. The use of optimistic or skeptical tone depends on the specific topic, while solution or threat framing creates a strong perception of the benefits or risks of AI. The dominant narratives of both potential and risk suggest that AI use is a complex phenomenon that requires deep understanding and a more serious approach.

One of the challenges is the ability of AI to manipulate content. AI facilitates the manipulation of pornographic content, thereby increasing the risk of abuse (Harun and Nurhadiyanto, 2024). However, the challenges do not stop there. The risk of misuse can extend to actions that violate social norms and ethics, such as the creation of Deepfake porn content that violates decency (Putra and Multazam, 2024). Deepfake porn represents a serious threat, often used to create prohibited content and violate the ethics and rights of victims. As for other cases, the use of AI can cause excessive dependence. AI is often utilized to complete academic tasks, leading to decreased teenage motivation to work hard, think critically, and make independent decisions when facing academic challenges (Muarifin, 2023). This can also reduce teenagers' confidence in their own individual abilities, which in turn creates psychological pressure, such as anxiety about not being able to compete without AI assistance.

Communication technology, particularly mass media, plays an important role in shaping moral principles in society. The media are not only a means of information but also an agent of social change (Asnidar et al., 2022). Most existing research focuses on the media's portrayal of AI technology in general and its impact on socio-economic factors. Examples include research on the utilization of AR (Augmented Reality) technology in science learning (Juwita et al., 2021) and the impact of AI on the economy (Rachmadana et al., 2022). However, there is minimal research that specifically addresses the relationship between AI and teenagers in media portrayals, such as in the news. UNESCO (2021) acknowledges that AI technologies offer significant

opportunities to advance scientific knowledge. In light of this, understanding how AI is portrayed in the media becomes crucial, especially considering its potential impact on younger audiences. The lack of research on this relationship presents an opportunity to emphasize the importance of exploring how AI is represented in the media and how these portrayals influence teenagers' perceptions and interactions with technology. In the context of social media or the internet, the majority of technology users are teenagers (Komariah et al., 2020).

Therefore, an in-depth understanding of how the media represents AI and teenagers is needed in order to identify the narratives presented in the news. With the increasingly important role of the media in shaping opinions among the younger generation, a more responsible approach is required to present AI technology objectively and constructively. This highlights a research gap that needs to be addressed. This study offers an analysis of the patterns of media coverage regarding the relationship between AI and teenagers. We conducted the analysis using quantitative methods and examined 60 news stories that reported on cases involving AI and teenagers. Consequently, we focused on how the news portrayed the relationship between these two entities.

Based on this background, this study focuses on analyzing the relationship between representations of artificial intelligence (AI) in the media and youth groups. As such, this study aims to answer several key questions: How does the media portray the relationship between AI and teenagers? how do media narratives influence teenagers' perceptions of AI? and what are the dominant patterns of media coverage regarding the positive and negative impacts of AI on teenagers.

2. Methods

This research uses a quantitative approach with content analysis techniques to identify patterns of portrayal of teenagers and AI in media coverage. Data was obtained through a news search on Google News conducted on November 26, 2024, at 9:40 WITA. The keywords "Teenagers/Teen" and "AI" were used in the search. The term "Teenagers" is assumed to refer to individuals aged between 10 and 20 years according to the WHO definition. Data collected were from the first 10 pages of Google News search results. Google News was chosen as the data source based on its popularity as a news aggregator commonly used to find up-to-date information. However, potential biases in the search algorithm and data representation are acknowledged as limitations of this study.

Therefore, the collected data were further filtered to ensure quality and relevance. Out of a total of 69 news articles found, only 60 messages were retained for further analysis after the curation process. None of the news articles were excluded from the study due to a lack of clear or reliable media identity. The curation process was based on specific criteria to determine the authenticity of the media, including media reputation, source transparency, and reporting consistency. To ensure transparency in the selection process, we documented the reasons for curating each news article. Only news from trustworthy and relevant media in the portrayal of teenagers and AI will be analyzed. Media considered trustworthy were selected based on clear criteria, including journalistic track record, source verification, and media ownership clarity.

The analysis was conducted by evaluating messages based on four main categories: "Whether AI is perceived as a threat to teenagers", "whether the news indicates that AI causes, exacerbates, or encourages problematic behavior in teenagers", "whether teenagers are portrayed ass secretly using AI requiring parental supervision", and "whether AI is considered necessary for teenagers as a positive tool or space in their lives". These guidelines include operational definitions for each category, specific examples, and rules to address ambiguity during the coding process. This approach ensures consistency in the analysis conducted to produce reusable results. This research evaluates the main narratives in each news article to understand trends and patterns of AI portrayal in the context of teenagers' lives.

The focus of the analysis is on the frequency of each trend's appearance in the news. This process will help develop an understanding of how the media presents AI and teenagers' issues and their impact on shaping public opinion. This research is limited to news available in Indonesian and English from Google News search results with analysis, only covering news from credible and verifiable media.

3. Result and Discussion

This study explores how news articles depict AI and teenagers through a Google News search. The analysis was conducted using a quantitative approach and content analysis method to evaluate the prevalence of specific narratives about AI and teenagers in news reports. The research aims to identify and measure four main categories of representation in Articles: AI as a danger to teenagers, AI as a trigger for problematic behavior in teenagers, the covert use of AI by teenagers, and AI as a positive space for teenagers.

Each news article was assessed based on the presence or absence of corresponding narratives to the categories using a two-level scale system. A score of zero (0) indicates the absence of the narrative, while a score of one (1) indicates the presence of the narrative falling into that category. This method allows for a quantitative assessment of the prevalence of narratives in each category, providing a clearer picture of the media's portrayal of AI and teenagers.

Theme

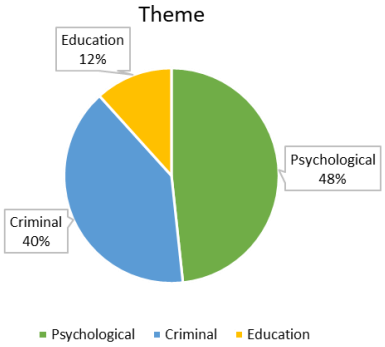

Figure 1. Comparison of the Percentage of AI and Teenager Portrayal Themes in the News

Figure 1 shows the thematic analysis results on the depiction of AI and teenagers in news articles. The theme 'psychological' is the most dominant, accounting for 48% of the narratives. This theme includes articles discussing the impact of AI on teenagers' mental health. The theme 'criminal' ranks second, with 40%, highlighting narratives that show the role of AI in illegal activities or its irresponsible use by teenagers. The theme 'education' is the least represented, focusing on only 12% of the potential of AI for teenagers. These findings indicate that media narratives about AI and teenagers emphasize negative impacts, particularly on psychological and criminal aspects, rather than positive narratives like education. This underscores the media's focus on the controversial aspects of AI.

AI is Dangerous for Teens

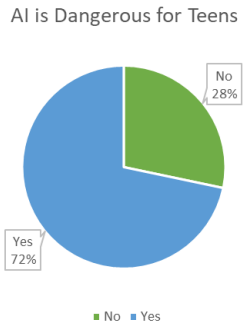

Figure 2. Comparison of the Percentage of Harmful AI for Teenagers in the News

Figure 2 highlights the analysis of how AI is portrayed as a danger to teenagers. 72% of the articles depict AI as a threat, with negative impacts such as declining social life quality, increasing anxiety, and worsening psychological conditions among teenagers. Conversely, 28% adopt a more neutral or positive perspective. This imbalance indicates that although concerns about the dangers of AI to teenagers are often highlighted, the majority of media reports do not explicitly state these negative impacts.

AI Triggers Problematic Behavior

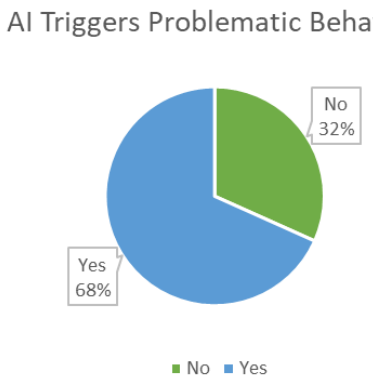

Figure 3. Comparison of Percentage of AI Triggers of Teenagers Problem Behavior in the News

Figure 3 shows that 68% of articles depict AI as exacerbating teenage behavior, highlighting cases of misuse such as the exploitation of AI platforms for illegal activities. Meanwhile, 32% do not explicitly discuss this relationship. These findings indicate significant media attention to social issues arising from technological advancements, although not all media sources identify AI as a primary factor influencing teenage behavior.

AI Accessed Silently

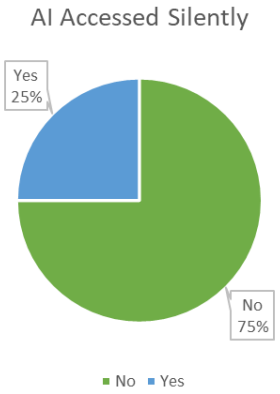

Figure 4. Comparison of the Percentage of AI Accessed Secretly in News

Figure 4 shows the proportion of articles depicting teenagers using AI secretly or without adult supervision. 25% of the articles discuss this narrative, linking it to risks such as privacy violations or technology misuse. However, 75% of the articles do not address this issue. This relatively rare narrative indicates that the media does not prioritize concerns about surveillance in teenagers' use of AI, even though this issue is important in daily life.

Positive AI Stories

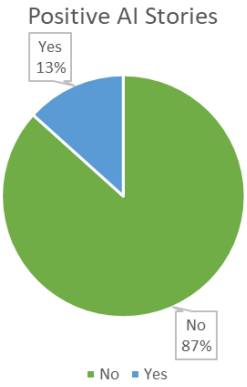

Figure 5. Comparison of the Percentage of Positive Stories on AI Usage in the News

Figure 5 presents an analysis of the portrayal of AI as a positive space for teenagers. Only 13% of the articles emphasize the benefits of AI, such as fostering creativity, supporting education, or facilitating innovation among teenagers. In contrast, 87% of the articles do not discuss AI in this context. These results indicate that the media rarely highlight the potential of AI to help teenagers optimize their potential compared to negative or neutral narratives.

Portrayal of the Relationship Between AI and Teens in the News

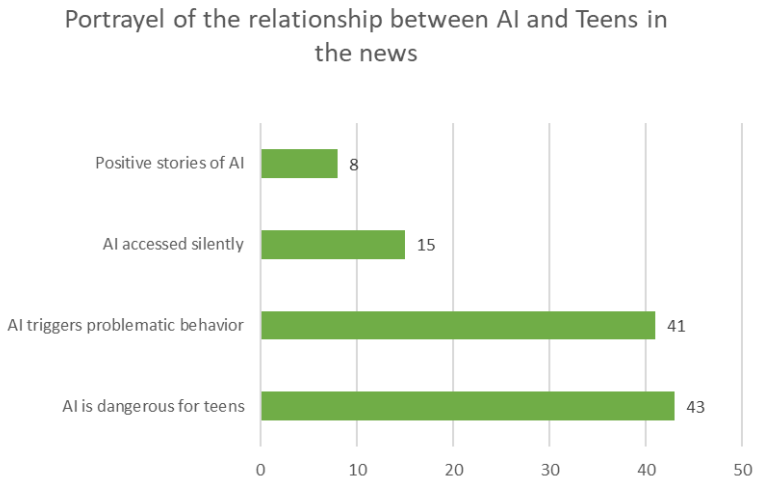

Figure 6. Responses to the Depiction of the Relationship Between AI and Teenagers in the News

Figure 6 depicts an analysis of the portrayal of AI and teenagers in four categories. The first category, positive AI narratives, appears in only 8 articles, indicating a lack of coverage of the positive impact of AI on teenagers. The second category, covert use of AI, appears in 15 articles, reflecting concerns about teenagers accessing AI unsupervised. The third category, AI as a trigger for problematic behavior is found in 41 articles, showing significant media attention to this issue. The fourth category, AI as a danger to teenagers, is the largest with 43 articles, highlighting the media's significant concerns about the negative impact of AI. These findings indicate that the majority of articles emphasize narratives that underline the risks and dangers of AI for teenagers.

Cross Tabulation of Themes and Depictions of AI in the News

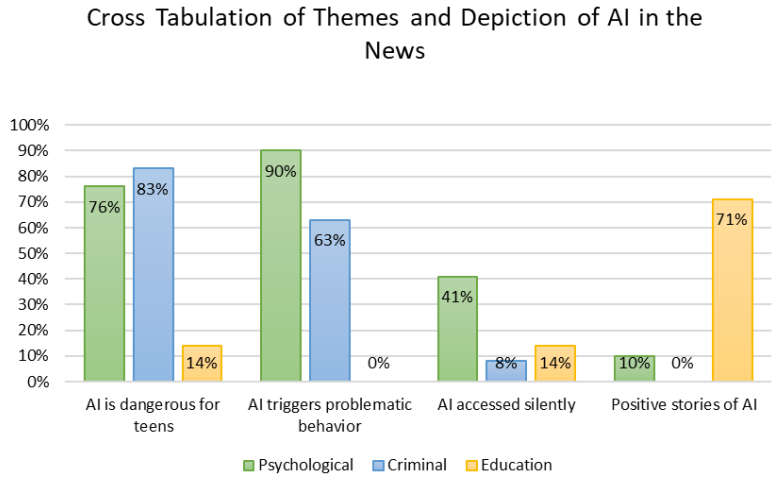

Figure 7. Cross-tabulation of Themes and Depictions of AI in News Articles

Figure 7 shows a cross-tabulation of AI narratives and three main themes—psychological, criminal, and educational—to identify patterns of representation. The analysis indicates that AI as a trigger for problematic behavior in adolescents most frequently appears in the psychological theme, with a relevance score of 89.7%. This suggests that articles discussing this topic tend to emphasize the negative effects of AI on adolescents. In the criminal theme, AI as a danger to adolescents has a score of 83.3%, reflecting concerns about the negative impact of AI. Meanwhile, positive narratives about AI received the highest score in the educational theme, at 71.4%, indicating that positive stories about AI are often associated with its role in education.

These findings provide insights into how the media constructs narratives around AI and adolescents. The dominance of negative themes such as psychological risks and behaviors indicates societal fears about AI advancements, especially concerning vulnerable groups like adolescents. Media portrayals highlighting negative impacts, such as increased anxiety, depression, and technology dependence, reflect broader concerns about technological developments.

Furthermore, the focus on criminal contexts reveals concerns about AI misuse by adolescents who may not be mature enough to use technology responsibly. However, this analysis also identifies a small number of articles that highlight the positive role of AI, such as its potential to enhance education and foster creativity.

To address the imbalance in media narratives, journalists and media outlets need to adopt a more balanced reporting approach. By incorporating diverse perspectives on the benefits and risks of AI, the media can provide a holistic understanding of this evolving technology. For example, highlighting successful cases where AI supports adolescent learning and development can encourage more constructive dialogue about AI's role in society. Additionally, responsible reporting should include practical guidelines for educators, parents, and policymakers to mitigate risks while maximizing the benefits of AI for adolescents. Such balanced narratives can help shape public perceptions and influence adolescent behavior toward AI, ultimately contributing to a more informed and nuanced societal discussion on this topic.

4. Conclusion

Overall, this study highlights the relationship between AI technology and teenagers as portrayed in the news. Based on the analysis, there is a tendency for the media to emphasize the negative impact of AI on teenagers. Most news reports focus on the adverse effects of AI usage among teenagers, while positive narratives, such as the benefits of AI for teenagers, are rarely discussed. This indicates a lack of attention to the positive potential that this technology offers.

The dominance of negative themes in the news shows that AI usage among teenagers often leads to social issues. This is supported by the results of the analysis of the first indicator, which is related to the dangers posed by AI to teenagers. Although not explicitly stated, more news stories perceive AI as a threat to teenagers' social and psychological well-being. This reflects the media's attention and societal concern about the dangers of AI to teenagers. The second indicator reinforces this statement by showing that media coverage tends to highlight the negative aspects of AI use by young people, often framing AI as a trigger for problematic behavior in teenagers. This finding underscores the media's greater focus on the negative consequences of AI compared to the positive ones.

The third indicator examines the content of news stories that discuss the use of AI by teenagers. The analysis reveals that only a small portion of the news stories addressed whether AI was being used covertly, while the majority did not include this narrative. This indicates that the media places greater emphasis on the outcomes of AI use rather than the processes or stages leading up to it. Furthermore, the media did not sufficiently highlight the importance of supervision in teenagers' use of AI. The lack of media attention to this aspect suggests that it is often regarded as less significant, despite its considerable impact

On the other hand, neutral and positive portrayals of AI are minimal compared to its negative portrayals. Positive narratives regarding the use of AI in fields like education, innovation, and creativity development are rarely highlighted in the news. In fact, this technology holds significant potential to enhance teenagers' skills in the digital era. Of the total 60 news articles analyzed, only 8 discussed the positive impact of AI, indicating that the media tends to emphasize the sensational aspects of AI-related risks for teenagers while paying less attention to its potential benefits. News coverage provides insufficient space to elaborate on the advantages that AI technology can offer. This reflects a disparity in media reporting between the potential benefits of AI and the risks associated with its use by teenagers. Such an imbalance can influence public perception, leading to AI being viewed primarily as a threat rather than as an opportunity that, with proper supervision and education, can be fully optimized.

This study highlights the necessity for the media to provide more balanced coverage regarding teenagers' use of AI. The media should present more information about the positive potential of AI technology, including its benefits in education, innovation, and fostering teenagers' creativity, while emphasizing the importance of proper supervision. By promoting balanced reporting, the media can contribute to shaping a more comprehensive societal understanding of AI, ensuring that it is perceived not only as a threat but also as a valuable opportunity to support teenagers' development.

In addition, further research is required to explore more deeply the impact of media coverage on teenagers' perceptions and behavior in using AI. Such follow-up research can provide better insight into how media narratives influence teenagers' decision-making in adopting and utilizing technology, as well as how more balanced reporting could improve both perceptions and the responsible use of AI among teenagers.

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